AIWA®

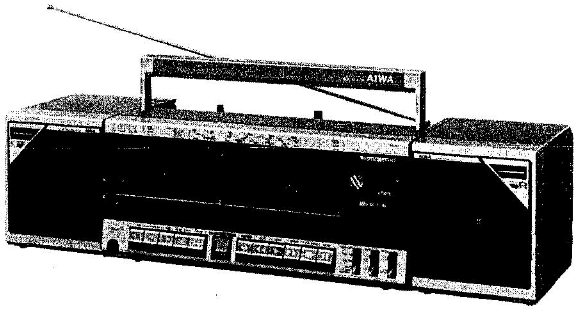
S/M Code No. 85-040 W
DATE OF ISSUE 8/1985-S

SERVICE MANUAL

MODEL NO.

CA-W40

CARRY COMPONENT SYSTEM



TYPE. HS, HB, HUB, UB, CB, ES, EB, KS, KB, GS, GB, ZS, ZB

SPECIFICATIONS

Type	Stereo multiband radio cassette recorder
Power source	Batteries, DC 13.5 V (R20P, D or SUM-1×9) **CA-W40H,F** AC 110—120 V/220—240 V (switchable), 50—60 Hz **CA-W40E,Z** AC 110—120 V/220—240 V (switchable), 50—60 Hz **CA-W40K** AC 120 V/240V (switchable), 50—60 Hz **CA-W40U** AC 120 V/220—240 V (switchable), 50—60 Hz **CA-W40C** AC 120 V, 60 Hz **CA-W40G** AC 120 V/240 V (switchable), 50—60 Hz
Output	16 W maximum DC (8W + 8W) **CA-W40U FTC Rule** 2.6 watts per channel, Min. RMS at 3.2 ohms, from 70 Hz to 15 kHz, with no more than 10% Total Harmonic Distortion.
Power consumption	**CA-W40H,F:** 20W **CA-W40E,Z:** 25W **CA-W40K:** 25W **CA-W40U:** 16W **CA-W40C:** 16W **CA-W40G:** 25W

Tape Recorder Section

Tape speed	4.8 cm/sec. (1-7/8 ips)
Recording system	II: AC bias
Erasing system	II: AC erase
Recording time	II: 60 minutes (C-60 Compact cassette, both directions)
Frequency response	NORMAL tape: 40—12,500 Hz CrO_2 tape: 40—14,000 Hz METAL tape: 40—16,000 Hz
Signal-to-noise ratio	59 dB (METAL tape, DOLBY NR ON)

Radio Section

Frequency ranges	**CA-W40H,G,F** FM: 88—108 MHz MW: 530—1,605 kHz SW_1:2.3—7.0 MHz SW_2:7.0—22 MHz **CA-W40E, K, Z** FM: 88—108 MHz SW: 5.9—18 MHz MW: 530—1,605 kHz LW: 150—285 kHz **CA-W40U,C** FM: 88—108 MHz AM: 530—1,605 kHz
Antennas	**CA-W40H,G,F** Whip antenna for FM and SW_2 Ferrite bar antenna for MW and SW_1 **CA-W40U,C** Whip antenna for FM Ferrite bar antenna for AM

Speaker Section

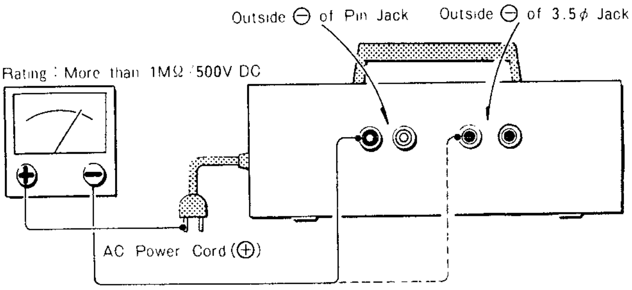
Type	2-way open baffle type
Speaker	Woofer 100 mm cone type Tweeter 20 mm ceramic type
Impedance	3.2 ohm.
Allowable maximum input	5.3W
Dimensions(W×H×D)	570×148×175 mm (22-1/2"×5-7/8×7")
Weight	5.3 kg (11.7lbs)
Accessories	AC power cord

- Design and specifications are subject to change without notice.
- Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.
- 'Dolby' and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of service.

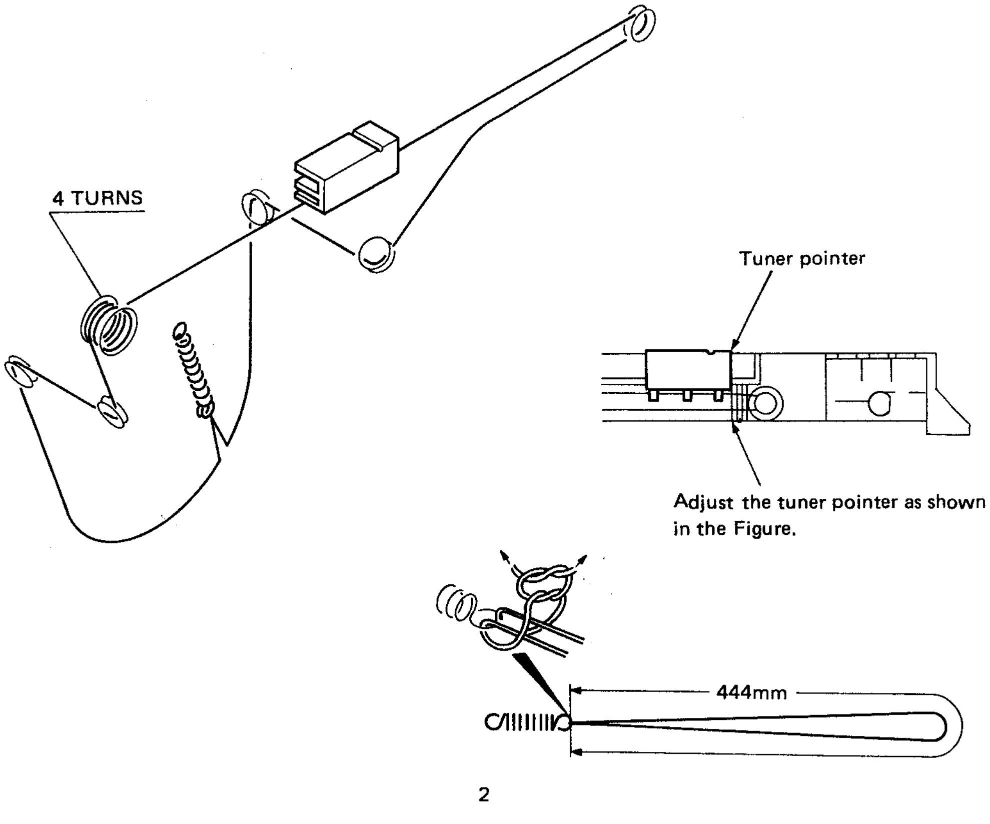
1. **No scratch and melting shall be made to covered lead-wires of an a.c. primary circuit including mains leads.**
2. **No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.**
3. **When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.**
4. **The following matters shall be maintained as they are, when repairing.**
   1) Soldering of lead-wire ends
      * Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
   2) Wiring and holding of lead-wires with wire-clips and binders
   3) Materials of lead-wires
      * e.g.; For UL models, lead-wires to be used shall be approved or accepted by the UL.
   4) Location of all kinds of insulators
   5) Setting of voltage selector switch
      * Set the Voltage Selector Switch to 240V, 220V, or 120V, According to your Local Voltage.
5. **After repaired, the insulation resistance or leakage current shall be measured with 500 ± 5V D.C and shall be not less than 1MΩ.**

Measuring Point



6. **General instructions for mechanism repair**
   1) The heads, capstan and pinch roller shall be cleaned of good quality alcohol after repaired, because dirty heads shall cause distorted sounds while dirty capstan and pinch roller shall occur wow/flutter and take-up fault.
   2) Lubricants been stained the surfaces of transmitting portion of the belts, idlers, capstan and pinch roller shall be removed, because slippery and faulty tape travel shall be caused.
   3) When oiling, only one or two drops shall be applied so as not to run over and be dispersed. Note should be taken of the metal fitting for the capstan and rotating portions of the idlers and pinch-roller, especially.
   4) E-rings and poly slider washers shall be replaced with new ones, if once those have been removed. – No re-utilization due to unreliability.
   5) Regular spare-parts shall always be used for repair, because using irregular parts and tampering with the products shall cause deterioration, mulfunction and damage.

DIAL CORD STRINGING



Adjust the tuner pointer as shown in the Figure.

ELECTRICAL MAIN PARTS LIST

- ⋆ -mark means less required items and availabilities may be limited.
- +++ mark denotes a component of assembled part which part code is represented by a previonsly stated component.

CAPACITORS
No mark, U, UF: μF
P, PF : pF

COILS
MMH: mH
UH : μH

FUSE
MMA:mA

Ref.No.	Part.No.	Description
=== IC ===		
	87-020-461	IC,BA4234AL
	87-027-895	IC,M5218L
	87-020-252	IC,M5226P
	87-027-948	IC,M54514AP
	87-020-368	IC,TA7283AP
	87-020-446	IC,TA7343AP
	87-020-356	IC,TA7358P
	87-020-443	IC,TA7719P
	87-020-002	IC,TD62553
	87-027-910	IC,UPC1228HA
=== TRANSISTOR ===		
	89-110-155	TRANSISTOR,2SA1015,GR
	89-110-154	TRANSISTOR,2SA1015,Y
	89-304-583	TRANSISTOR,2SC458C
	89-313-833	TRANSISTOR,2SC1383NCRS
	89-315-834	TRANSISTOR,2SC1583,F
	89-318-155	TRANSISTOR,2SC1815,GR (U,C ONLY)
	89-318-464	TRANSISTOR,2SC1846,R
	89-319-233	TRANSISTOR,2SC1923 O
	89-320-011	TRANSISTOR,2SC2001 KL
=== TUNER CIRCUIT BOARD SECTION ===		
PCB-A	81-544-628	TUNER CIRCUIT BOARD (E,K,Z ONLY)
PCB-A	81-544-629	TUNER CIRCUIT BOARD (U,C ONLY)
BPF1	* 87-030-087	FILTER BPMB6
C1	* 87-018-109	CAP,CERA-SOL SS 22P (U,C ONLY)
C1	* 87-018-110	CAP,CERA-SOL SS 24P (E,K,Z ONLY)
C2	* 87-018-133	CAP,CERA-SOL SS 4700P
C3	* 87-018-134	CAP,CERA-SOL SS 0.01
C4	* 87-018-097	CAP,CERA-SOL SS 2.2P
C5	* 87-018-104	CAP,CERA-SOL SS 10P
C6	* 87-018-134	CAP,CERA-SOL SS 0.01
C7	* 87-018-134	CAP,CERA-SOL SS 0.01
C8	* 87-018-134	CAP,CERA-SOL SS 0.01
C9	* 87-018-162	CAP,CERA-SOL SS 15P RH
C10	* 87-018-151	CAP,CERA-SOL SS 20P CH
C11	* 87-018-141	CAP,CERA-SOL SS 3.3P CH
C12	* 87-018-134	CAP,CERA-SOL SS 0.01
C13	* 87-018-106	CAP,CERA-SOL SS 15P
C14	* 87-018-133	CAP,CERA-SOL SS 4700P
C15	* 87-018-134	CAP,CERA-SOL SS 0.01
C16	* 87-012-105	CAP,CERA-SOL SS 0.022
C17	* 87-012-105	CAP,CERA-SOL SS 0.022
C18	* 87-018-134	CAP,CERA-SOL SS 0.01
C21	* 87-018-104	CAP,CERA-SOL SS 10P (U,C ONLY)
C22	* 87-018-134	CAP,CERA-SOL SS 0.01
C23	* 87-018-119	CAP,CERA-SOL SS 100P
C29	* 87-014-057	CAP,PP 1000P
C37	* 87-018-170	CAP,CERA-SOL SS 8.2P UJ (U,C ONLY)
C37	* 87-018-106	CAP,CERA-SOL SS 15P (E,K,Z ONLY)
C38	* 87-018-108	CAP,CERA-SOL,20P (E,K,Z ONLY)
C38	* 87-018-099	CAP,CERA-SOL,3.9P (U,C ONLY)
C39	* 87-012-105	CAP,CERA-SOL 0.022 (U,C ONLY)
C40	* 87-012-105	CAP,CERA-SOL 0.022
C41	* 87-018-134	CAP,CERA-SOL SS 0.01 (E,K,Z ONLY)
C42	* 87-018-134	CAP,CERA-SOL SS 0.01 (U,C ONLY)
C42	* 87-018-176	CAP,CERA-SOL SS 22P UJ (E,K,Z ONLY)
C43	* 87-018-175	CAP,CERA-SOL SS 20P UJ (E,K,Z ONLY)
C43	* 87-018-371	CAP,ELECT 470-6.3 (U,C ONLY)
C44	* 87-018-371	CAP,ELECT 470-6.3 (U,C ONLY)

Ref.No.	Part.No.	Description
C44	* 87-014-045	CAP,PP 330P (E,K,Z ONLY)
C45	* 87-014-033	CAP,PP 100P (E,K,Z ONLY)
C45	* 87-018-134	CAP,CERA-SOL SS 0.01 (U,C,E,K ONLY)
C46	* 87-018-114	CAP,CERA-SOL SS 39P (U,C,E,K ONLY)
C47	* 87-018-107	CAP,CERA-SOL SS 18P (U,C ONLY)
C48	* 87-012-105	CAP,CERA-SOL 0.022 (E,K,Z ONLY)
C49	* 87-012-105	CAP,CERA-SOL 0.022 (E,K,Z ONLY)
C51	* 87-018-371	CAP,ELECT 470-6.3 (U,C ONLY)
C52	* 87-018-371	CAP,ELECT 470-6.3 (U,C ONLY)
C53	* 87-018-134	CAP,CERA-SOL SS 0.01 (E,K,Z ONLY)
C54	* 87-018-109	CAP,CERA-SOL SS 22P (E,K,Z ONLY)
C55	* 87-018-107	CAP,CERA-SOL SS 18P (E,K,Z ONLY)
C56	* 87-018-110	CAP,CERA-SOL SS 24P (E,K,Z ONLY)
C57	* 87-018-118	CAP,CERA-SOL SS 82P (E,K,Z ONLY)
C58	* 87-018-113	CAP,CERA-SOL SS 33P (E,K ONLY)
C101	* 87-018-010	CAP,CERA-SOL SS 12P (E,K ONLY)
C101	* 87-018-009	CAP,CERA-SOL SS 10P (U,C ONLY)
CF1	* 87-008-261	FILTER SFE10.7MA5-A (U,C ONLY)
CF1	* 87-008-264	FILTER SFE10.7MS2-A (E,K,Z ONLY)
CF2	* 87-008-261	FILTER SFE10.7MA5-A (U,C ONLY)
CF2	* 87-008-264	FILTER SFE10.7MS2-A (E,K,Z ONLY)
D1	87-017-004	DIODE,SD-117
D2	87-020-110	DIODE 1SS177
D3	87-020-110	DIODE 1SS177
D4	87-027-332	DIODE,ZENER HZ6B1L
IFT1	* 87-008-292	IFT FM PS
IFT2	* 87-008-293	IFT FM(QUAD)PS
L1	* 87-006-084	COIL RF FM
L2	* 87-007-162	COIL OSC FM
L3	* 87-006-080	COIL,ANT SW (E,K,Z ONLY)
L3	* 81-547-601	ANT,FERRITE BAR AM-4 PS (U,C ONLY)
L4	* 81-550-668	ANT,FERRITE BAR LW-MW (E,K,Z ONLY)
L5	+++	ANT,FERRITE BAR LW-MW (E,K,Z ONLY)
L4	* 87-007-150	COIL,OSC AM (U,C ONLY)
L5	* 87-003-158	COIL,CHOKE 0.33UH (U,C ONLY)
L6	* 87-007-156	COIL,OSC SW PS (E,K,Z ONLY)
L7	* 87-007-154	COIL,OSC MW PS (E,K,Z ONLY)
L8	* 87-007-153	COIL,OSC LW PS (E,K,Z ONLY)
L9	* 87-003-158	COIL,CHOKE 0.33UH (E,K,Z ONLY)
L10	* 87-005-165	COIL,CHOKE 1UH (E,K,Z ONLY)
MFT1	* 87-008-294	FILTER CFMA-468PS
SFR1	* 87-021-741	SFR 4.7K
TC5	* 87-011-164	TRIMMER,CERAMIC 30PF (E,K,Z ONLY)
TC6	* 87-011-154	TRIMMER,CERAMIC 6PF (E,K,Z ONLY)
TC7	* 87-011-155	TRIMMER,CERAMIC 10PF (E,K,Z ONLY)
TC8	* 87-011-164	TRIMMER,CERAMIC 30PF (E,K,Z ONLY)
VC1	* 87-011-167	PVC 335-20P (E,K,Z ONLY)
VC2	+++	PVC 335-20P (E,K,Z ONLY)
VC3	+++	PVC 335-20P (E,K,Z ONLY)
VC4	+++	PVC 335-20P (E,K,Z ONLY)
TC1	+++	PVC 335-20P (E,K,Z ONLY)
TC2	+++	PVC 335-20P (E,K,Z ONLY)
TC3	+++	PVC 335-20P (E,K,Z ONLY)
TC4	+++	PVC 335-20P (E,K,Z ONLY)
VC1	* 87-011-159	PVC TRACKINGLESS 20P (U,C ONLY)
VC2	+++	PVC TRACKINGLESS 20P (U,C ONLY)
VC3	+++	PVC TRACKINGLESS 20P (U,C ONLY)
VC4	+++	PVC TRACKINGLESS 20P (U,C ONLY)
TC1	+++	PVC TRACKINGLESS 20P (U,C ONLY)
TC2	+++	PVC TRACKINGLESS 20P (U,C ONLY)
TC3	+++	PVC TRACKINGLESS 20P (U,C ONLY)
TC4	+++	PVC TRACKINGLESS 20P (U,C ONLY)
S1	81-031-932	ROTARY SW (BAND) (E,K,Z ONLY)

Ref.No.	Part.No.	Description
=== MAIN CIRCUIT BOARD SECTION ===		
PCB-B	*	MAIN CIRCUIT BOARD (E,K,Z ONLY)
PCB-B	*	MAIN CIRCUIT BOARD (U,C ONLY)
C1	* 87-018-036	CAP,CERA-SOL S 220P
C2	* 87-018-036	CAP,CERA-SOL S 220P
C3	* 87-018-040	CAP,CERA-SOL S 470P
C4	* 87-018-040	CAP,CERA-SOL S 470P
C5	* 87-015-695	CAP,ELECT 1-50
C6	* 87-015-695	CAP,ELECT 1-50
C7	* 87-010-263	CAP,ELECT 100/10V
C8	* 87-010-263	CAP,ELECT 100/10V
C17	* 87-018-044	CAP,CERA-SOL 1000PF
C18	* 87-018-044	CAP,CERA-SOL 1000PF
C93	* 87-015-692	CAP,ELECT 0.22-50V
C94	* 87-015-692	CAP,ELECT 0.22-50V
C95	* 87-018-046	CAP,CERA-SOL S 0.0047
C96	* 87-018-046	CAP,CERA-SOL S 0.0047
C102	* 87-018-044	CAP,CERA-SOL S 1000P
C104	* 87-010-263	CAP,ELECT 100/10V
C105	* 87-010-263	CAP,ELECT 100/10V
C111	* 87-018-136	CAP,CERA-SOL S 1500PF
C118	* 87-015-691	CAP,ELECT 0.1-50
C119	* 87-010-221	CAP,ELECT 470/10
C130	* 87-010-385	CAP,ELECT 220-25V
C132	* 87-010-080	CAP,ELECT 4700-25V
C137	* 87-018-047	CAP,CERA-SOL S 0.01Y/16
C138	* 87-018-047	CAP,CERA-SOL S 0.01Y/16
C140	* 87-010-221	CAP,ELECT 470/10
C150	* 87-012-105	CAP,CERA-SOL 0.022
D1	87-027-097	DIODE 1S1555
D2	87-027-097	DIODE 1S1555
D3	87-027-097	DIODE 1S1555
D4	87-027-097	DIODE 1S1555
D5	87-027-097	DIODE 1S1555
D6	87-027-097	DIODE 1S1555
D7	87-027-097	DIODE 1S1555
D8	87-027-097	DIODE 1S1555
D9	87-027-097	DIODE 1S1555
D10	87-027-097	DIODE 1S1555
D11	87-027-097	DIODE 1S1555
D12	87-027-097	DIODE 1S1555
D13	87-027-097	DIODE 1S1555
D14	87-027-097	DIODE 1S1555
D15	87-027-097	DIODE 1S1555
D16	87-027-097	DIODE 1S1555
D17	87-027-097	DIODE 1S1555
D20	87-027-583	DIODE,ZENER HZ9B1L
D30	87-027-584	DIODE,ZENER HZ9C1L
J1	87-049-423	PIN JACK (LINE IN L)
J2	87-049-424	PIN JACK (LINE IN R)
J3	87-049-084	JACK,3.5 (MIC)
J4	87-049-338	JACK 2.5 (PLAYER SYNC)
J5	87-049-333	JACK 3.5ST S (PHONES)
J6	87-049-084	JACK,3.5 (EXT SPEAKER R)
J7	87-049-084	JACK,3.5 (EXT SPEAKER L)
L101	* 81-550-675	BIAS OSC COIL (E,K,Z ONLY)
L101	* 81-550-652	BIAS OSC COIL (U,C ONLY)
L102	* 87-003-109	COIL 5.6MMH
L103	* 87-003-109	COIL 5.6MMH
L110	* 87-003-045	COIL 22UH
LPF	* 87-008-253	LPF
R57	* 87-025-417	RES,NONFLAM 1/4W 1 (E,K,Z ONLY)
R57	* 87-025-313	RES,NONFLAM 1/4W 4.7 (U ONLY)
⚠R57	* 87-029-067	RES,FUSIBLE 1/4W 4.7 (C ONLY)

Ref.No.	Part.No.	Description
R58	* 87-025-313	RED,NONFLAM 1/4W 4.7 (U ONLY)
⚠R58	* 87-029-067	RES,FUSIBLE 1/4W 4.7 (C ONLY)
R58	* 87-025-417	RES,NONFLAM 1/4W 1 (E,K,Z ONLY)
⚠R111	* 87-029-108	RES,FUSIBLE 1/4W 10 (E,K,Z,C ONLY)
⚠R124	* 87-029-108	RES,FUSIBLE,1/2W 1
⚠R125	* 87-029-108	RES,FUSIBLE,1/2W 1
R163	* 87-025-313	RES,NONFLAM 4.7
S1	81-550-649	LEVER SW (FUNCTION) (U,C ONLY)
S1	81-550-648	LEVER SW (FUNCTION) (E,K,Z ONLY)
S2	81-550-647	SLIDE SW (REC/PB)
S3	87-031-934	PUSH SW (DECK 1/2)
S5	87-031-933	LEVER SW (TAPE)
S6	87-031-933	LEVER SW (MODE)
S10	81-550-625	LEAF SW (PLAY-DECK1)
S11	81-550-625	LEAF SW (PLAY-DECK2)
S12	81-550-625	LEAF SW (PLAY-DECK1)
S13	81-550-626	LEAF SW (HI-DUB)
SFR1	* 87-021-742	SFR 10K
SFR2	* 87-021-745	SFR 47K
SFR3	* 87-021-824	SFR 10K
SFR4	* 87-021-824	SFR 10K
SFR5	* 87-021-824	SFR 10K
SFR6	* 87-021-742	SFR 10K
SFR7	* 87-021-742	SFR 10K
SFR8	* 87-021-742	SFR 10K
SFR9	* 87-021-742	SFR 10K
SFR10	* 87-021-745	SFR 47K
SFR11	* 87-021-745	SFR 47K
=== GEQ CIRCUIT BOARD SECTION ===		
PCB-C	*	GEQ CIRCUIT BOARD (E,K,Z ONLY)
PCB-C	*	GEQ CIRCUIT BOARD (U,C ONLY)
C57	* 87-018-044	CAP,CERA-SOL S 1000P
C58	* 87-018-044	CAP,CERA-SOL S 1000P
C63	* 87-015-695	CAP,ELECT 1-50
C64	* 87-015-695	CAP,ELECT 1-50
C65	* 87-015-681	CAP,ELECT 10-16
C66	* 87-015-681	CAP,ELECT 10-16
C75	* 87-018-039	CAP,CERA-SOL S 390P
C76	* 87-018-039	CAP,CERA-SOL S 390P
C126	* 87-010-263	CAP,ELECT 100/10V
D18	87-027-097	DIODE 1S1555
=== CONTROL CIRCUIT BOARD SECTION ===		
PCB-D	*	CONTROL CIRCUIT BOARD (E,K,Z ONLY)
PCB-D	*	CONTROL CIRCUIT BOARD (U,C ONLY)
C61	* 87-015-681	CAP,ELECT 10-16
C62	* 87-015-681	CAP,ELECT 10-16
C85	* 87-018-137	CAP,CERA-SOL S 3300P
C86	* 87-018-137	CAP,CERA-SOL S 3300P
C129	* 87-015-695	CAP,ELECT 1-50
D25	87-027-543	LED,LN317GP (DOLBY)
S7	87-031-737	PUSH SW (DOLBY)
VR107	81-550-606	SLIDE VR,50KB,2 CT (VOLUME)
VR106	81-550-607	SLIDE VR,100KW (BALANCE)
VR101	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR102	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR103	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR104	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR105	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)

Ref.No.	
=== LED	
PCB-E	
PCB-E	
D21	
D22	
D23	
D24	
=== DOLB	
PCB-F	
PCB-F	
C21	*
C22	*
C125	*
D19	
L104	*
L104	*
L105	*
=== PW C	
PCB-G	
PCB-G	
D26	
D27	
D28	
D29	
⚠J8	
⚠J8	
⚠F1	
⚠F1	
⚠F1	
⚠S9	
⚠T1	
⚠T1	
=== DIRE	
PCB-H	
S4	
=== MISC	
EH	
M1	
M2	
PH	
RPH	
S15	
S16	
=== SPEA	
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SP1	*
SP2	*
SP3	*
SP4	*

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CAPACITORS
No mark, U, UF: μF
P, PF : pF

COILS
MMH: mH
UH : μH

FUSE
MMA:mA

Ref.No.	Part.No.	Description
=== MAIN CIRCUIT BOARD SECTION ===		
PCB-B	*	MAIN CIRCUIT BOARD (E,K,Z ONLY)
PCB-B	*	MAIN CIRCUIT BOARD (U,C ONLY)
C1	* 87-018-036	CAP,CERA-SOL S 220P
C2	* 87-018-036	CAP,CERA-SOL S 220P
C3	* 87-018-040	CAP,CERA-SOL S 470P
C4	* 87-018-040	CAP,CERA-SOL S 470P
C5	* 87-015-695	CAP,ELECT 1-50
C6	* 87-015-695	CAP,ELECT 1-50
C7	* 87-010-263	CAP,ELECT 100/10V
C8	* 87-010-263	CAP,ELECT 100/10V
C17	* 87-018-044	CAP,CERA-SOL 1000PF
C18	* 87-018-044	CAP,CERA-SOL 1000PF
C93	* 87-015-692	CAP,ELECT 0.22-50V
C94	* 87-015-692	CAP,ELECT 0.22-50V
C95	* 87-018-046	CAP,CERA-SOL S 0.0047
C96	* 87-018-046	CAP,CERA-SOL S 0.0047
C102	* 87-018-044	CAP,CERA-SOL S 1000P
C104	* 87-010-263	CAP,ELECT 100/10V
C105	* 87-010-263	CAP,ELECT 100/10V
C111	* 87-018-136	CAP,CERA-SOL S 1500PF
C118	* 87-015-691	CAP,ELECT 0.1-50
C119	* 87-010-221	CAP,ELECT 470/10
C130	* 87-010-385	CAP,ELECT 220-25V
C132	* 87-010-080	CAP,ELECT 4700-25V
C137	* 87-018-047	CAP,CERA-SOL S 0.01Y/16
C138	* 87-018-047	CAP,CERA-SOL S 0.01Y/16
C140	* 87-010-221	CAP,ELECT 470/10
C150	* 87-012-105	CAP,CERA-SOL 0.022
D1	87-027-097	DIODE 1S1555
D2	87-027-097	DIODE 1S1555
D3	87-027-097	DIODE 1S1555
D4	87-027-097	DIODE 1S1555
D5	87-027-097	DIODE 1S1555
D6	87-027-097	DIODE 1S1555
D7	87-027-097	DIODE 1S1555
D8	87-027-097	DIODE 1S1555
D9	87-027-097	DIODE 1S1555
D10	87-027-097	DIODE 1S1555
D11	87-027-097	DIODE 1S1555
D12	87-027-097	DIODE 1S1555
D13	87-027-097	DIODE 1S1555
D14	87-027-097	DIODE 1S1555
D15	87-027-097	DIODE 1S1555
D16	87-027-097	DIODE 1S1555
D17	87-027-097	DIODE 1S1555
D20	87-027-583	DIODE,ZENER HZ9B1L
D30	87-027-584	DIODE,ZENER HZ9C1L
J1	87-049-423	PIN JACK (LINE IN L)
J2	87-049-424	PIN JACK (LINE IN R)
J3	87-049-084	JACK,3.5 (MIC)
J4	87-049-338	JACK 2.5 (PLAYER SYNC)
J5	87-049-333	JACK 3.5ST S (PHONES)
J6	87-049-084	JACK,3.5 (EXT SPEAKER R)
J7	87-049-084	JACK,3.5 (EXT SPEAKER L)
L101	* 81-550-675	BIAS OSC COIL (E,K,Z ONLY)
L101	* 81-550-652	BIAS OSC COIL (U,C ONLY)
L102	* 87-003-109	COIL 5.6MMH
L103	* 87-003-109	COIL 5.6MMH
L110	* 87-003-045	COIL 22UH
LPF	* 87-008-253	LPF
R57	* 87-025-417	RES,NONFLAM 1/4W 1 (E,K,Z ONLY)
R57	* 87-025-313	RES,NONFLAM 1/4W 4.7 (U ONLY)
⚠R57	* 87-029-067	RES,FUSIBLE 1/4W 4.7 (C ONLY)
R58	* 87-025-313	RED,NONFLAM 1/4W 4.7 (U ONLY)
⚠R58	* 87-029-067	RES,FUSIBLE 1/4W 4.7 (C ONLY)
R58	* 87-025-417	RES,NONFLAM 1/4W 1 (E,K,Z ONLY)
⚠R111	* 87-029-108	RES,FUSIBLE 1/4W 10 (E,K,Z,C ONLY)
⚠R124	* 87-029-108	RES,FUSIBLE,1/2W 1
⚠R125	* 87-029-108	RES,FUSIBLE,1/2W 1
R163	* 87-025-313	RES,NONFLAM 4.7
S1	81-550-649	LEVER SW (FUNCTION) (U,C ONLY)
S1	81-550-648	LEVER SW (FUNCTION) (E,K,Z ONLY)
S2	81-550-647	SLIDE SW (REC/PB)
S3	87-031-934	PUSH SW (DECK 1/2)
S5	87-031-933	LEVER SW (TAPE)
S6	87-031-933	LEVER SW (MODE)
S10	81-550-625	LEAF SW (PLAY-DECK1)
S11	81-550-625	LEAF SW (PLAY-DECK2)
S12	81-550-625	LEAF SW (PLAY-DECK1)
S13	81-550-626	LEAF SW (HI-DUB)
SFR1	* 87-021-742	SFR 10K
SFR2	* 87-021-745	SFR 47K
SFR3	* 87-021-824	SFR 10K
SFR4	* 87-021-824	SFR 10K
SFR5	* 87-021-824	SFR 10K
SFR6	* 87-021-742	SFR 10K
SFR7	* 87-021-742	SFR 10K
SFR8	* 87-021-742	SFR 10K
SFR9	* 87-021-742	SFR 10K
SFR10	* 87-021-745	SFR 47K
SFR11	* 87-021-745	SFR 47K
=== GEQ CIRCUIT BOARD SECTION ===		
PCB-C	*	GEQ CIRCUIT BOARD (E,K,Z ONLY)
PCB-C	*	GEQ CIRCUIT BOARD (U,C ONLY)
C57	* 87-018-044	CAP,CERA-SOL S 1000P
C58	* 87-018-044	CAP,CERA-SOL S 1000P
C63	* 87-015-695	CAP,ELECT 1-50
C64	* 87-015-695	CAP,ELECT 1-50
C65	* 87-015-681	CAP,ELECT 10-16
C66	* 87-015-681	CAP,ELECT 10-16
C75	* 87-018-039	CAP,CERA-SOL S 390P
C76	* 87-018-039	CAP,CERA-SOL S 390P
C126	* 87-010-263	CAP,ELECT 100/10V
D18	87-027-097	DIODE 1S1555
=== CONTROL CIRCUIT BOARD SECTION ===		
PCB-D	*	CONTROL CIRCUIT BOARD (E,K,Z ONLY)
PCB-D	*	CONTROL CIRCUIT BOARD (U,C ONLY)
C61	* 87-015-681	CAP,ELECT 10-16
C62	* 87-015-681	CAP,ELECT 10-16
C85	* 87-018-137	CAP,CERA-SOL S 3300P
C86	* 87-018-137	CAP,CERA-SOL S 3300P
C129	* 87-015-695	CAP,ELECT 1-50
D25	87-027-543	LED,LN317GP (DOLBY)
S7	87-031-737	PUSH SW (DOLBY)
VR107	81-550-606	SLIDE VR,50KB,2 CT (VOLUME)
VR106	81-550-607	SLIDE VR,100KW (BALANCE)
VR101	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR102	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR103	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR104	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
VR105	81-550-608	SLIDE VOL 100K B2 (GRAPHIC EQUALIZER)
=== LED CIRCUIT BOARD SECTION ===		
PCB-E	*	LED CIRCUIT BOARD (E,K,Z ONLY)
PCB-E	*	LED CIRCUIT BOARD (U,C ONLY)
D21	87-020-469	LED LN350 GPH-F (REV)
D22	87-027-097	DIODE 1S1555
D23	87-020-469	LED LN350 GPH-F (FWD)
D24	87-020-468	LED LN224RPH-FZ (OPE/BATT)
=== DOLBY CIRCUIT BOARD SECTION ===		
PCB-F	*	DOLBY CIRCUIT BOARD (E,K,Z ONLY)
PCB-F	*	DOLBY CIRCUIT BOARD (U,C ONLY)
C21	* 87-018-136	CAP,CERA-SOL S 1500PF
C22	* 87-018-136	CAP,CERA-SOL S 1500PF
C125	* 87-010-236	CAP,ELECT 1000-10S
D19	87-027-097	DIODE 1S1555
L104	* 81-550-669	FILTER DOLBY (U,C ONLY)
L104	* 81-550-676	FILTER DOLBY (E,K,Z ONLY)
L105	* 81-550-669	FILTER DOLBY (U,C ONLY)
=== PW CIRCUIT BOARD SECTION ===		
PCB-G	*	PW CIRCUIT BOARD (E,K,Z ONLY)
PCB-G	*	PW CIRCUIT BOARD (U,C ONLY)
D26	87-027-365	DIODE S5277B
D27	87-027-365	DIODE S5277B
D28	87-027-365	DIODE S5277B
D29	87-027-365	DIODE S5277B
⚠J8	87-032-977	JACK,AC (E,K,Z ONLY)
⚠J8	87-032-954	JACK,AC (U,C ONLY)
⚠F1	87-035-190	FUSE,2A (E,K,Z ONLY)
⚠F1	87-035-300	FUSE,2A (U ONLY)
⚠F1	87-035-301	FUSE,2.5A (C ONLY)
⚠S9	87-031-780	SLIDE SW (VOLTAGE SELECTOR)
⚠T1	81-550-651	TRANSFORMER PT E (E,K,Z ONLY)
⚠T1	81-550-650	TRANSFORMER PT U (U,C ONLY)
=== DIRECTION CIRCUIT BOARD SECTION ===		
PCB-H	81-550-632	DIRECTION CIRCUIT BOARD
S4	87-031-910	SLIDE SW (FWD/REV)
=== MISCELLANEOUS ===		
EH	87-046-196	EH (DECK2)
M1	87-045-246	MOTOR MMA 6B2LWFCX (DECK1)
M2	87-045-246	MOTOR MMA 6B2LWFCX (DECK2)
PH	87-046-268	PH
RPH	87-046-225	RPH (DECK2)
S15	86-521-239	LEAF SW (1-MOTOR)
S16	86-521-239	LEAF SW (2-MOTOR)
=== SPEAKER SECTION ===		
	* 81-550-629	CORD,PLUG 3.5
SP1	* 81-550-628	SPEAKER (W)
SP2	* 81-550-628	SPEAKER (W)
SP3	* 83-097-603	SPEAKER (T)
SP4	* 83-097-603	SPEAKER (T)

⚠ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will no be supplied separately. If this becomes necessary, please order the entire circuit board.

E, K, Z ONLY

Combination circuit board 81-550-640

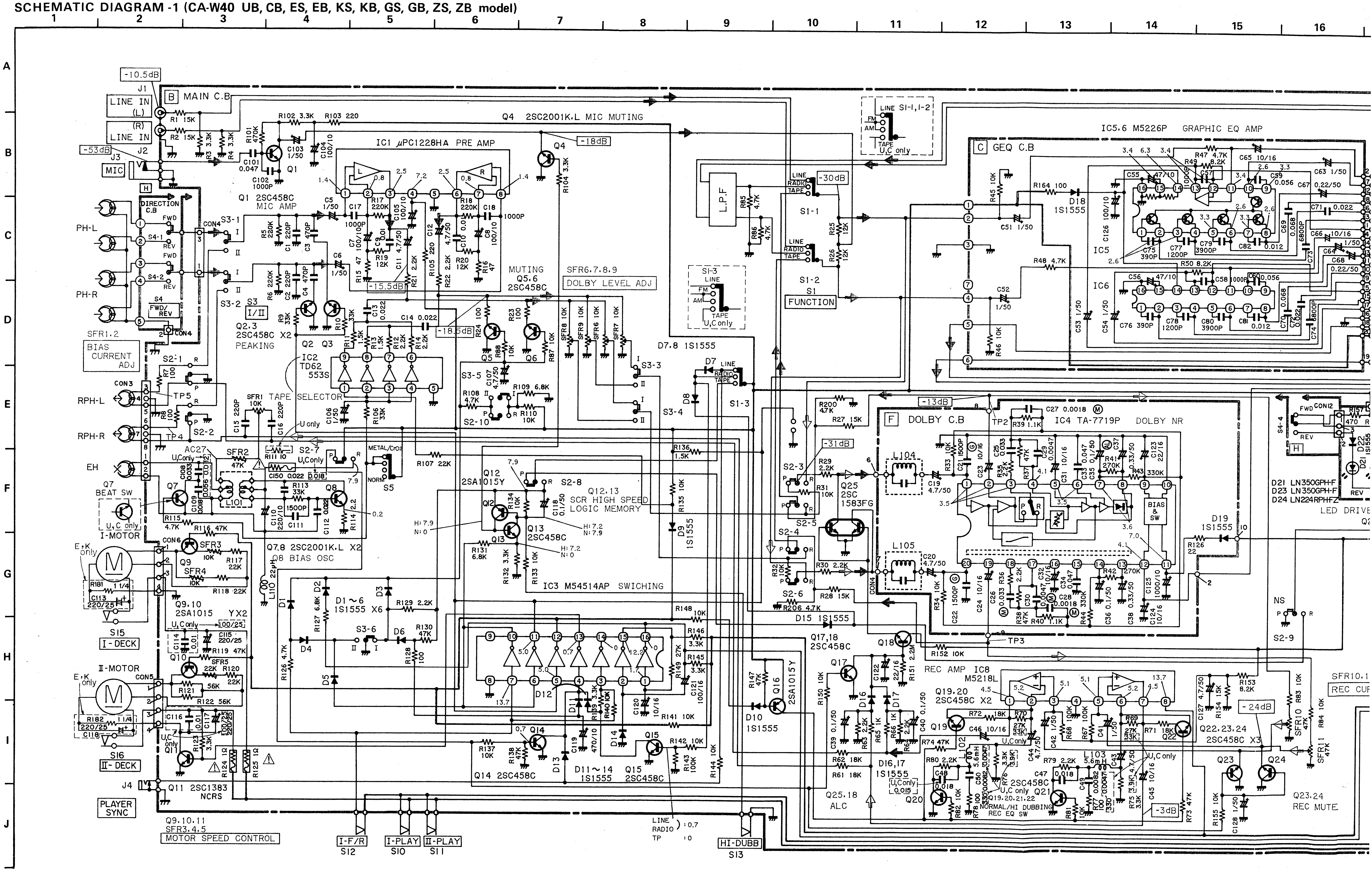
PCB-B	81-550-654
PCB-C	81-550-655
PCB-D	81-550-656
PCB-E	81-550-657
PCB-F	81-550-658
PCB-G	81-550-659

U, C ONLY

Combination circuit board 81-550-666

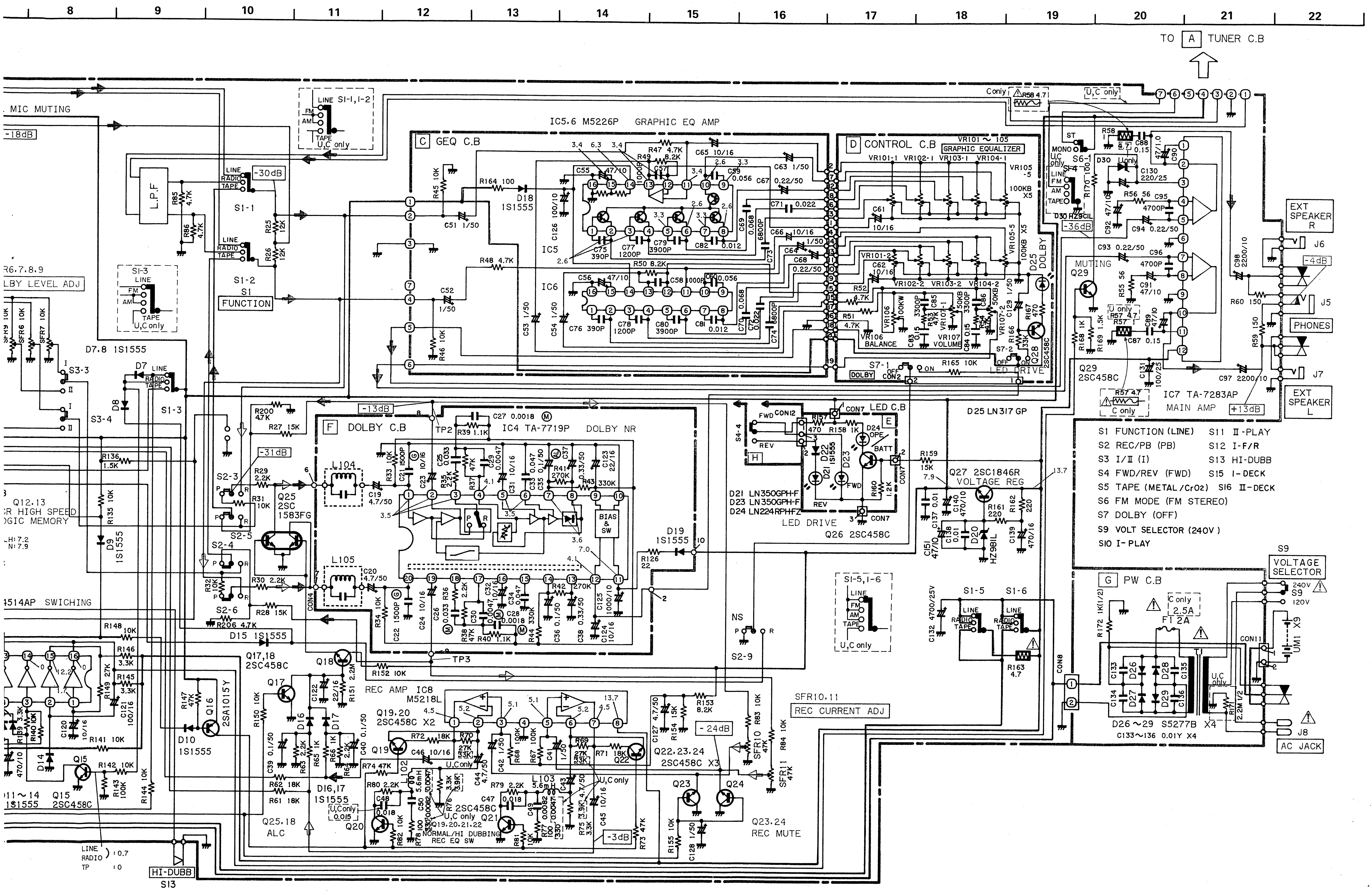
PCB-B	81-550-660
PCB-C	81-550-661
PCB-D	81-550-662
PCB-E	81-550-663
PCB-F	81-550-664
PCB-G	81-550-665

SCHEMATIC DIAGRAM -1 (CA-W40 UB, CB, ES, EB, KS, KB, GS, GB, ZS, ZB model)

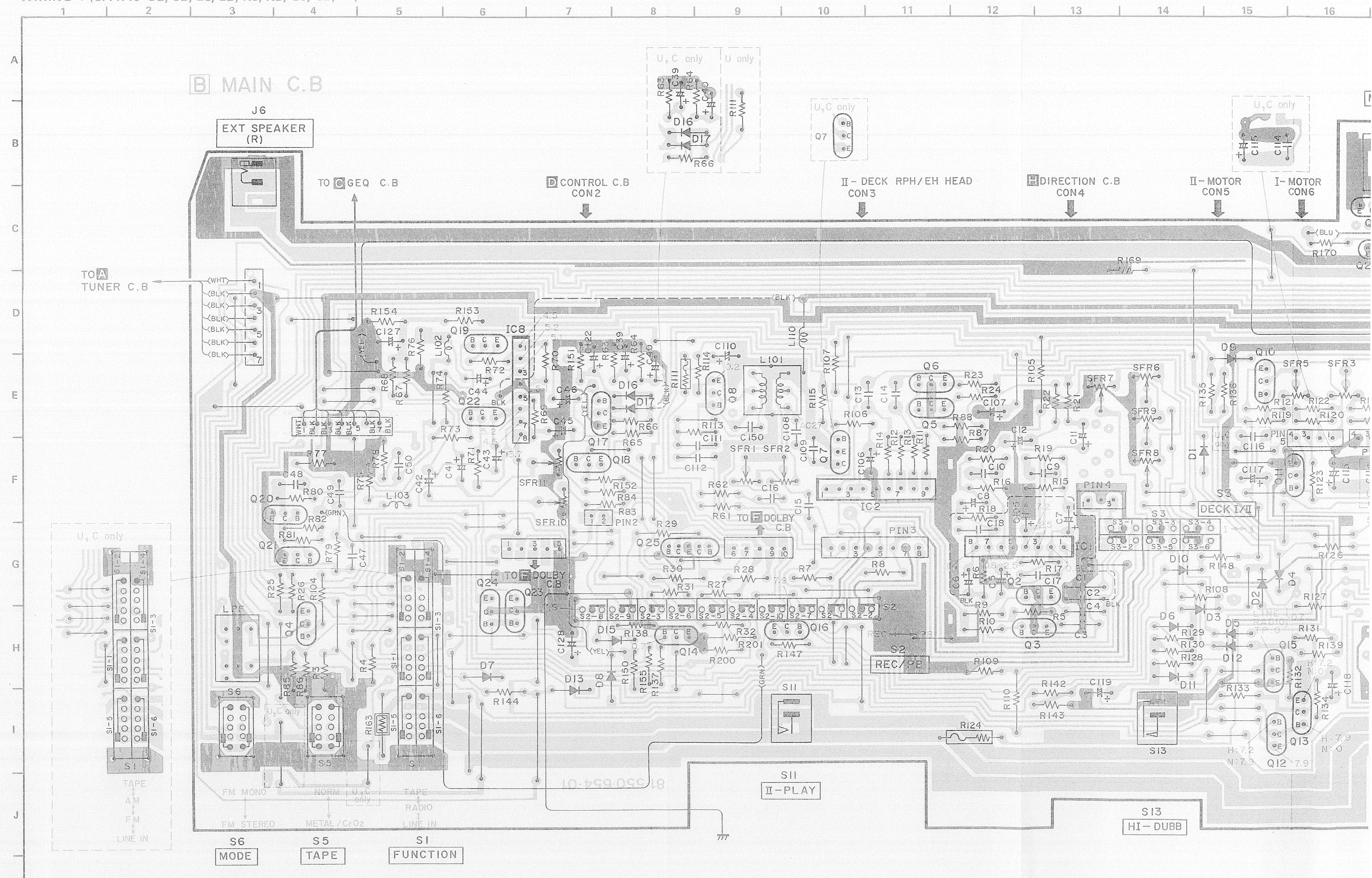

B MAIN C.B
C GEQ C.B
F DOLBY C.B
H DIRECTION C.B
LINE IN (L)
LINE IN (R)
MIC
-10.5dB
-53dB
-18dB
-30dB
-15.5dB
-18.5dB
-13dB
-31dB
-24dB
-3dB
PH-L
PH-R
RPH-L
RPH-R
EH
Q4 2SC2001K.L MIC MUTING
IC1 μPC1228HA PRE AMP
Q1 2SC458C MIC AMP
IC5.6 M5226P GRAPHIC EQ AMP
IC5
IC6
IC4 TA-7719P DOLBY NR
MUTING Q5.6 2SC458C
SFR6.7.8.9 DOLBY LEVEL ADJ
S1 FUNCTION
S1-1
S1-2
S1-3
LINE S1-1, I-2
FM
AM
TAPE
U,C only
L.P.F
Q2.3 2SC458C X2 PEAKING
IC2 TD62553S
SFR1 TAPE SELECTOR
SFR1.2 BIAS CURRENT ADJ
S3 I/II
Q12.13 SCR HIGH SPEED LOGIC MEMORY
Q12 2SA1015Y
Q13 2SC458C
IC3 M54514AP SWICHING
Q7.8 2SC2001K.L X2 Q8 BIAS OSC
Q7 BEAT SW
I-MOTOR
II-MOTOR
Q9.10 2SA1015 YX2
S15 I-DECK
S16 II-DECK
Q11 2SC1383 NCRS
PLAYER SYNC
Q9.10.11 SFR3.4.5 MOTOR SPEED CONTROL
D1~6 1S1555 X6
D7.8 1S1555
D11~14 1S1555
Q14 2SC458C
Q15 2SC458C
D10 1S1555
Q16 2SA1015Y
Q17,18 2SC458C
Q25 2SC1583FG
REC AMP IC8 M5218L
Q19.20 2SC458C X2
Q19.20.21.22 NORMAL/HI DUBBING REC EQ SW
Q22.23.24 2SC458C X3
Q23.24 REC MUTE
Q25.18 ALC
D16,17 1S1555
D15 1S1555
D18 1S1555
D19 1S1555
D21 LN350GPH-F
D23 LN350GPH-F
D24 LN224RPHFZ
LED DRIVE
NS
SFR10.1 REC CUR
I-F/R S12
I-PLAY S10
II-PLAY S11
HI-DUBB S13
LINE : 0.7
RADIO
TP : 0
METAL/CrO2
NORM
S5
TP2
TP3
TP4
TP5
L104
L105
L101
L103
BIAS & SW
E,K only

⚠ Safety component symbol

This symbol is given to inportant parts which serve to maintain the safty of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

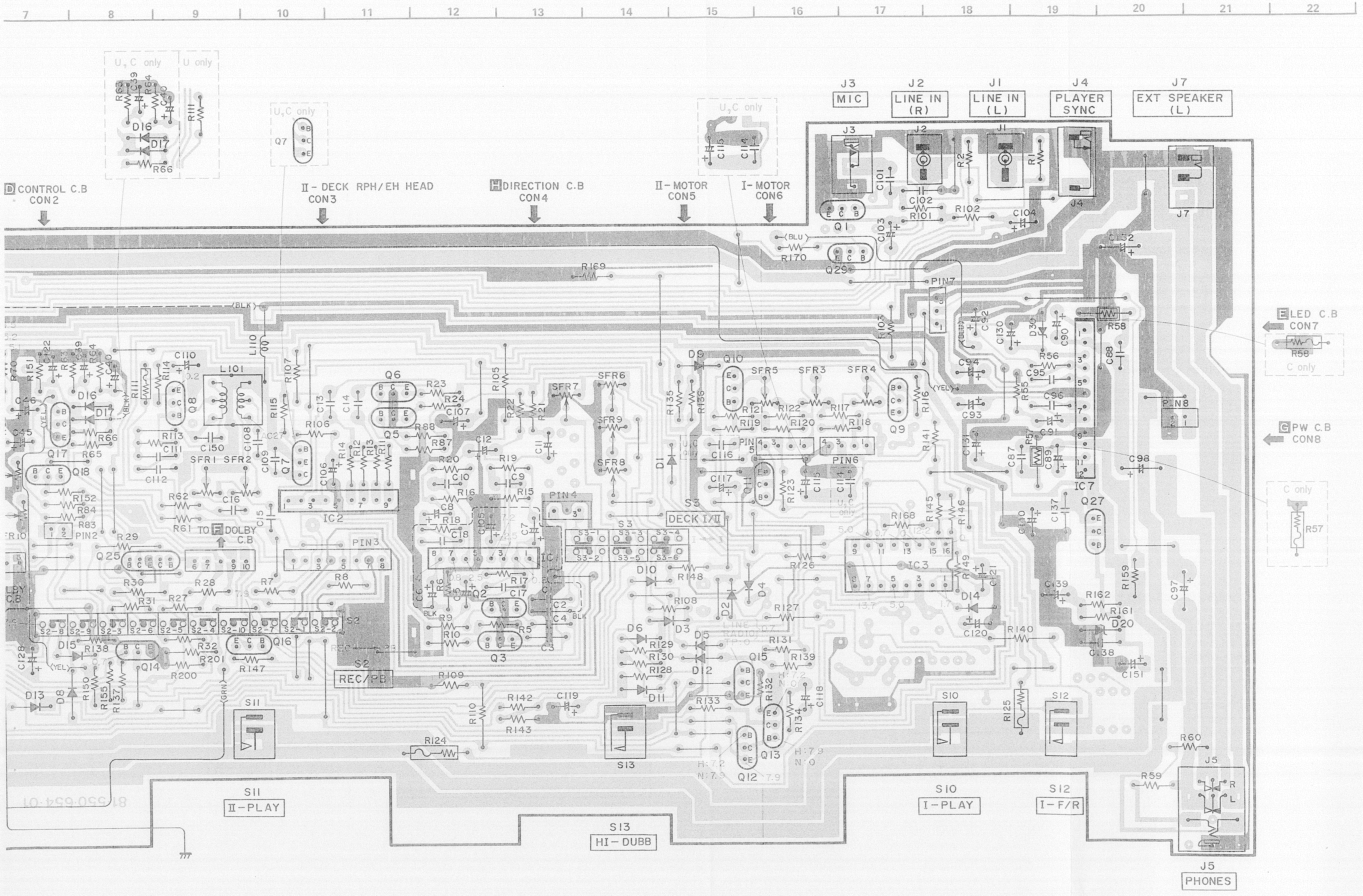

8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
TO A TUNER C.B
MIC MUTING
-18dB
LINE S1-1, 1-2
FM
AM
TAPE
U,C only
L.P.F
S1-1
S1-2
S1
FUNCTION
-30dB
S1-3
U,C only
R6.7.8.9
DOLBY LEVEL ADJ
D7.8 1S1555
S3-3
S3-4
S1-3
IC5.6 M5226P GRAPHIC EQ AMP
C GEQ C.B
IC5
IC6
R164 100
D18 1S1555
D CONTROL C.B
VR101 ~ 105
GRAPHIC EQUALIZER
VR101-1
VR102-1
VR103-1
VR104-1
VR105-5
100KB X5
VR106 BALANCE
VR107 VOLUME
S7-1
S7-2
DOLBY
LED DRIVE
D25 DOLBY
Q28 2SC458C
C only
R58 4.7
U,C only
ST
MONO
S6-1
S4-4
LINE
FM
AM
TAPE
D30 HZ29CIL
-36dB
MUTING
Q29
Q29 2SC458C
IC7 TA-7283AP
MAIN AMP
+13dB
R57 4.7
C only
EXT SPEAKER R
J6
-4dB
J5
PHONES
J7
EXT SPEAKER L
D25 LN317 GP
-13dB
F DOLBY C.B
TP2
IC4 TA-7719P DOLBY NR
L104
L105
BIAS & SW
-31dB
S2-3
S2-4
S2-5
S2-6
Q25 2SC1583FG
D19 1S1555
TP3
Q12.13
HIGH SPEED LOGIC MEMORY
D9 1S1555
4514AP SWICHING
D15 1S1555
Q17,18 2SC458C
Q16 2SA1015Y
D10 1S1555
Q15 2SC458C
Q25.18 ALC
HI-DUBB
S13
LINE : 0.7
RADIO
TP : 0
REC AMP IC8 M5218L
Q19.20 2SC458C X2
D16,17 1S1555
U,C only
Q20
Q21
2SC458C
Q19.20.21.22
NORMAL/HI DUBBING REC EQ SW
L103 5.6mH
-3dB
-24dB
Q22.23.24 2SC458C X3
Q23.24 REC MUTE
SFR10.11
REC CURRENT ADJ
NS
S2-9
S1-5, 1-6
E LED C.B
H
FWD
REV
OPE
BATT
D21 LN350GPH-F
D23 LN350GPH-F
D24 LN224RPHFZ
LED DRIVE
Q26 2SC458C
Q27 2SC1846R VOLTAGE REG
D20 HZ9BIL
S1-5
S1-6
G PW C.B
C only 2.5A
F1 2A
T1
D26~29 S5277B X4
C133~136 0.01Y X4
S9
VOLTAGE SELECTOR
240V
120V
UM1 X9
J8
AC JACK
S1 FUNCTION (LINE)
S2 REC/PB (PB)
S3 I/II (I)
S4 FWD/REV (FWD)
S5 TAPE (METAL/CrO2)
S6 FM MODE (FM STEREO)
S7 DOLBY (OFF)
S9 VOLT SELECTOR (240V)
S10 I-PLAY
S11 II-PLAY
S12 I-F/R
S13 HI-DUBB
S15 I-DECK
S16 II-DECK

WIRING-1 (CA-W40 UB, CB, ES, EB, KS, KB, GS, GB, ZS, ZB model)

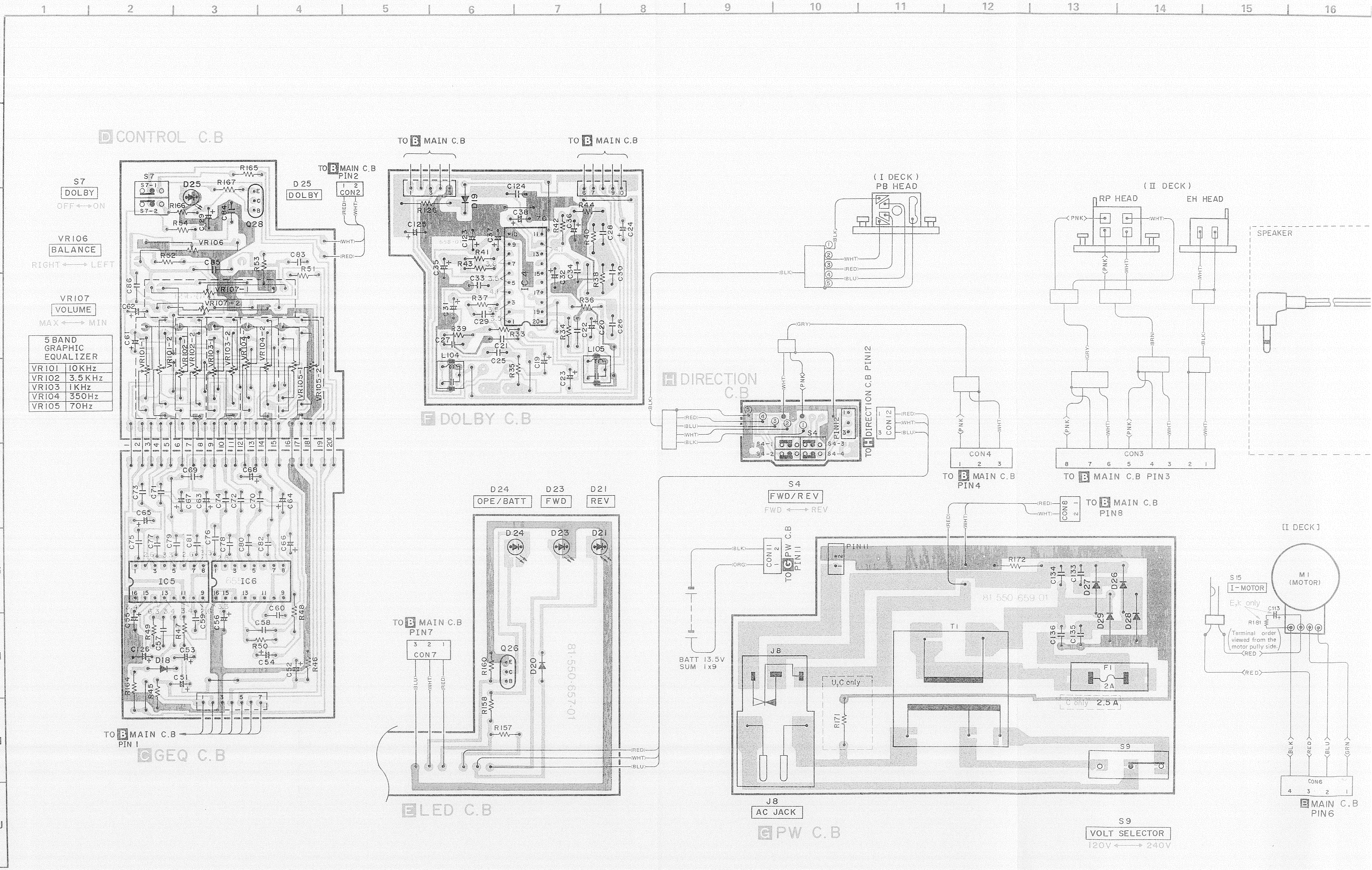

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K
B MAIN C.B
J6
EXT SPEAKER (R)
TO C GEQ C.B
D CONTROL C.B CON2
II-DECK RPH/EH HEAD CON3
H DIRECTION C.B CON4
II-MOTOR CON5
I-MOTOR CON6
U, C only
U only
TO A TUNER C.B
(WHT)
(BLK)
(BLU)
(GRN)
(YEL)
IC8
IC2
IC1
Q19
Q22
Q17
Q18
Q20
Q21
Q24
Q23
Q25
Q4
Q14
Q16
Q7
Q8
Q6
Q5
Q2
Q3
Q10
Q15
Q13
Q12
L101
L102
L103
L110
SFR1
SFR2
SFR5
SFR3
SFR6
SFR7
SFR8
SFR9
SFR10
SFR11
PIN2
PIN3
PIN4
TO F DOLBY C.B
S2 REC/PB
S3 DECK I/II
S11 II-PLAY
S13 HI-DUBB
S6 MODE
S5 TAPE
S1 FUNCTION
FM MONO
FM STEREO
NORM
METAL/CrO2
TAPE
RADIO
LINE IN
TAPE
AM
FM
LINE IN
81550 654 01

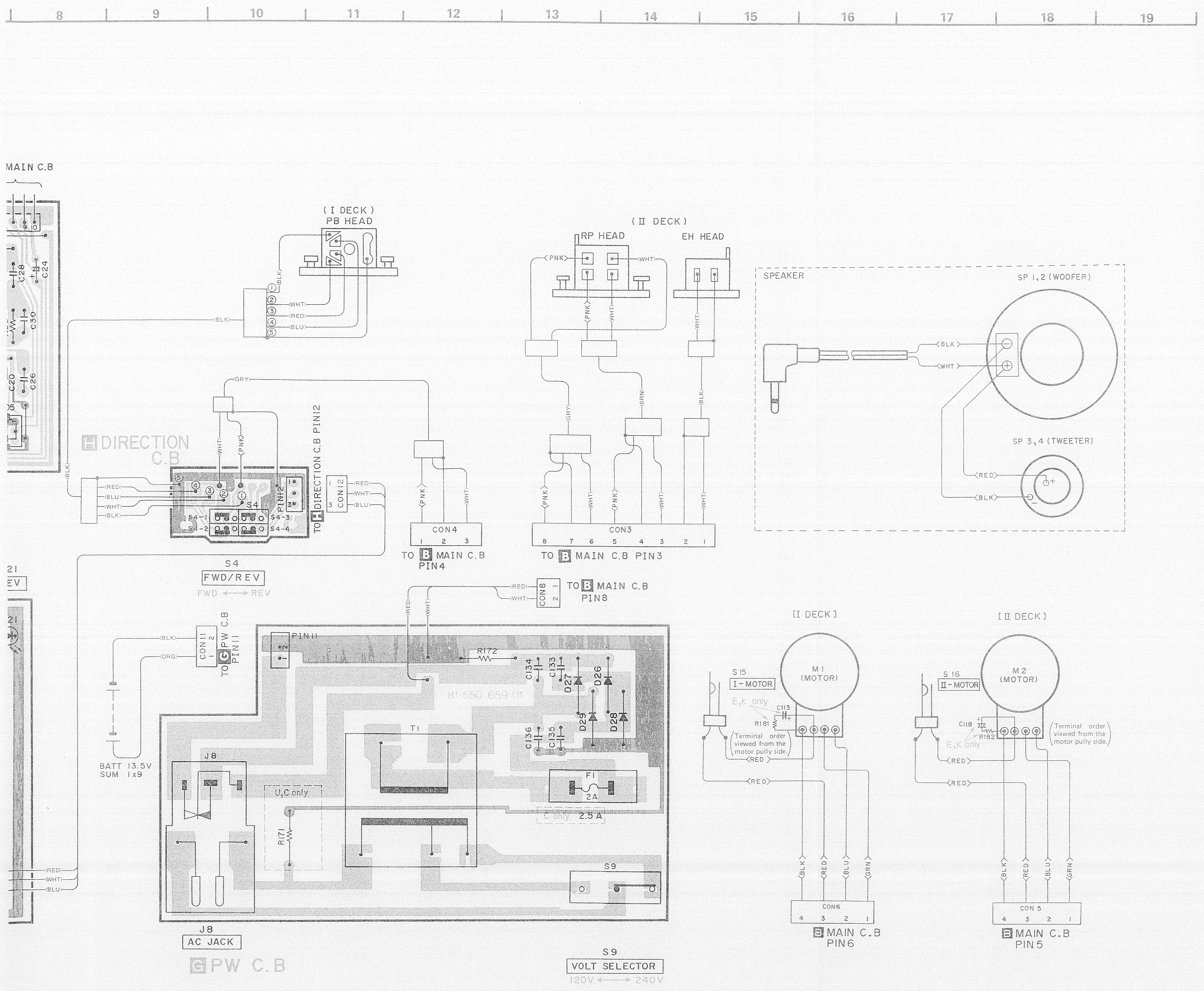
NOTES (1) ▨ Earth pattern ▨ Others pattern

The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals. But ( ) is with AM reception.


7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
U, C only
U only
J3
MIC
J2
LINE IN (R)
J1
LINE IN (L)
J4
PLAYER SYNC
J7
EXT SPEAKER (L)
D CONTROL C.B CON2
II - DECK RPH/EH HEAD CON3
H DIRECTION C.B CON4
II - MOTOR CON5
I - MOTOR CON6
E LED C.B CON7
C only
G PW C.B CON8
C only
TO F DOLBY C.B
IC2
IC3
IC7
S2
REC/PB
S3
DECK I/II
S11
II - PLAY
S13
HI - DUBB
S10
I - PLAY
S12
I - F/R
J5
PHONES
SFR1
SFR2
SFR3
SFR4
SFR5
SFR6
SFR7
SFR8
SFR9
PIN2
PIN3
PIN4
PIN5
PIN6
PIN7
PIN8

WIRING-2 (CA-W40 UB, CB, ES, EB, KS, KB, GS, GB, ZS, ZB model)


D CONTROL C.B
S7
DOLBY
OFF ⟷ ON
VR106
BALANCE
RIGHT ⟷ LEFT
VR107
VOLUME
MAX ⟷ MIN
5 BAND GRAPHIC EQUALIZER
VR101 10KHz
VR102 3.5KHz
VR103 1KHz
VR104 350Hz
VR105 70Hz
D25
DOLBY
TO B MAIN C.B PIN2
CON2
TO B MAIN C.B
F DOLBY C.B
IC4
L104
L105
(I DECK)
PB HEAD
(II DECK)
RP HEAD
EH HEAD
SPEAKER
H DIRECTION C.B
S4
FWD/REV
FWD ⟷ REV
TO H DIRECTION C.B PIN12
CON12
CON4
TO B MAIN C.B PIN4
CON3
TO B MAIN C.B PIN3
TO B MAIN C.B PIN8
CON8
C GEQ C.B
IC5
IC6
TO B MAIN C.B PIN1
D24
OPE/BATT
D23
FWD
D21
REV
TO B MAIN C.B PIN7
CON7
Q26
81-550-657-01
E LED C.B
TO G PW C.B PIN11
CON11
BATT 13.5V SUM 1x9
PIN11
81 550 659 01
T1
F1
2A
C only 2.5A
U, C only
J8
AC JACK
G PW C.B
S9
VOLT SELECTOR
120V ⟷ 240V
[I DECK]
M1 (MOTOR)
S15
I-MOTOR
E, K only
Terminal order viewed from the motor pully side.
CON6
B MAIN C.B PIN6
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J


8
9
10
11
12
13
14
15
16
17
18
19
MAIN C.B
C28
C24
C30
C20
C26
(I DECK)
PB HEAD
(II DECK)
RP HEAD
EH HEAD
(BLK)
(WHT)
(RED)
(BLU)
(PNK)
(GRY)
(BRN)
H DIRECTION C.B
TO H DIRECTION C.B PIN12
PIN12
CON12
S4
S4-1
S4-2
S4-3
S4-4
FWD/REV
FWD ←→ REV
CON4
TO B MAIN C.B PIN4
CON3
TO B MAIN C.B PIN3
CON8
TO B MAIN C.B PIN8
SPEAKER
SP 1,2 (WOOFER)
SP 3,4 (TWEETER)
CON11
TO G PW C.B PIN11
PIN11
R172
C134
C133
C136
C135
D27
D26
D29
D28
81 550 659 01
T1
F1
2A
C only 2.5 A
U,C only
R171
J8
AC JACK
S9
VOLT SELECTOR
120V ←→ 240V
G PW C.B
BATT 13.5V
SUM 1x9
21
EV
[I DECK]
[II DECK]
S15
I-MOTOR
S16
II-MOTOR
M1 (MOTOR)
M2 (MOTOR)
E,K only
C113
R181
C118
R182
Terminal order viewed from the motor pully side.
(GRN)
CON6
CON5
B MAIN C.B PIN6
B MAIN C.B PIN5

NOTES:

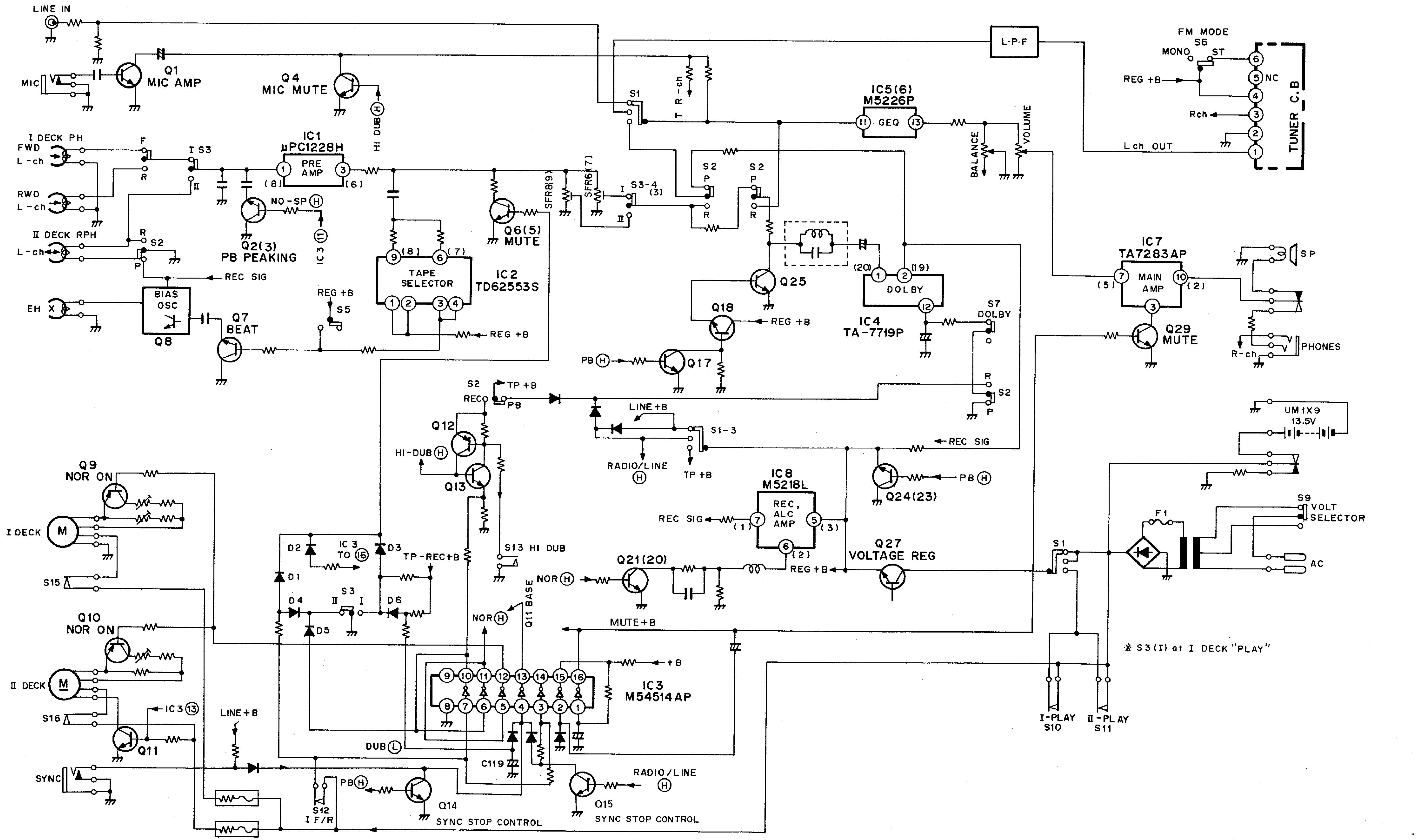
1) ▬ B (+) power supply
2) ➡ Signal path
⇨ Rec path, AM signal path.
3) The voltage is the reference value measured with a tester (20k-ohms/V DC) when there are no signals. But ( ) is with AM reception or recording. With a vacuum-tube voltmeter during recording.
4) Resistors with no designation have a rated power of 1/8W and a tolerance of ±5%.
5) Capacitors with no designation have a dielectric strength of less than 50WV.
6) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
7) Ceramic capacitor symbols:
   - For temperature compensation (SL)
   - High dielectric constant system (YY)
   - High dielectric constant system (YW, YP, YZ)
   - Semiconductor ceramic
   - For temperature compensation (SH)
8) Explanation of symbols
   - Ⓜ Mylar capacitor
   - Ⓐ Aluminum solid capacitor
   - (PP) Polypropylene film capacitor
   - (BP) Bi-polarized capacitor
   - (LL) Low-leakage capacitor
   - Fuse resistor
   - Nonflammable resistor

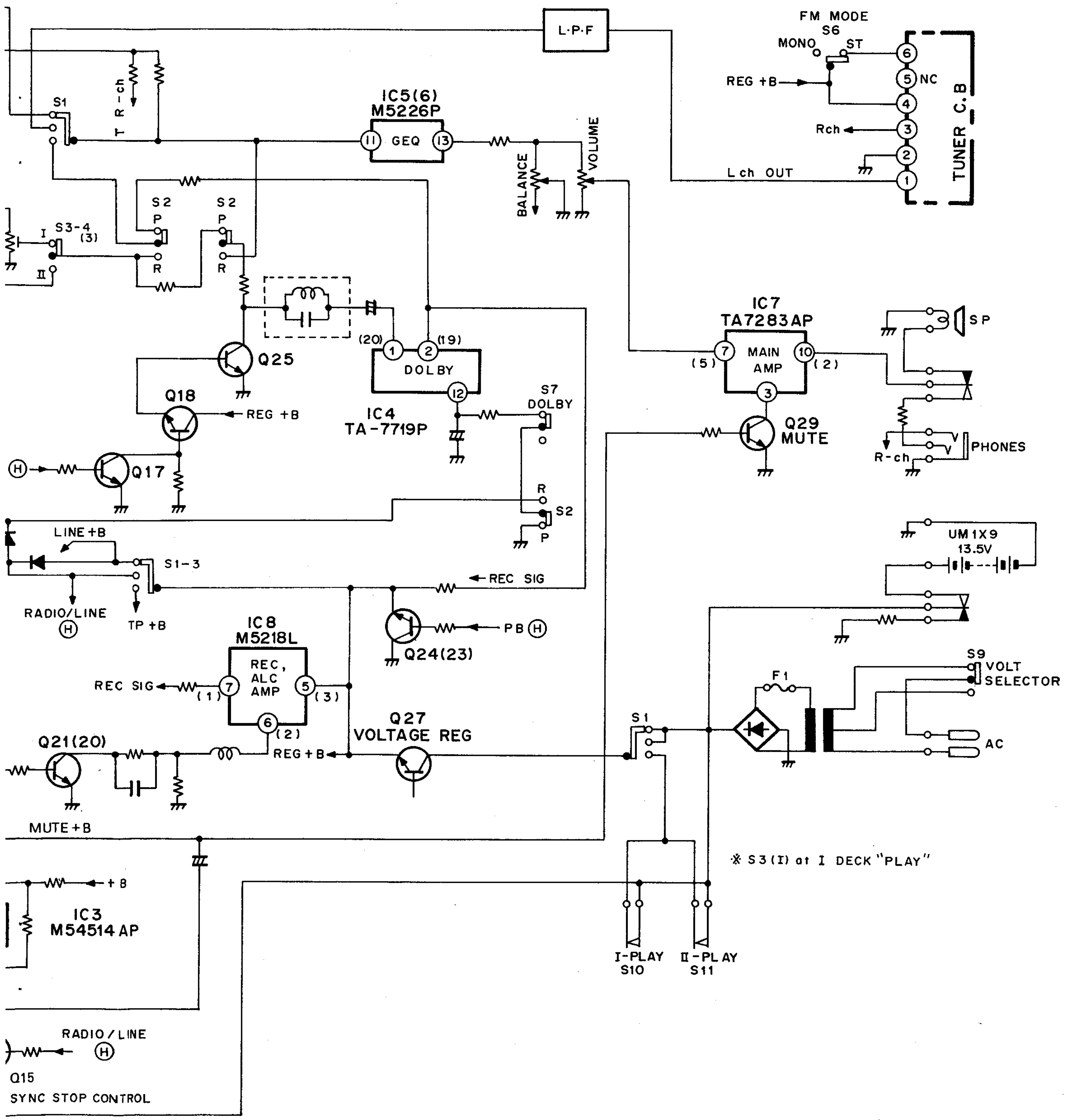
⚠ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.

NOTES (1) ▬ Earth pattern ▭ Others pattern
The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals. But ( ) is with AM reception.

BLOCK DIAGRAM


LINE IN
MIC
Q1
MIC AMP
Q4
MIC MUTE
HI DUB H
I DECK PH
FWD
L-ch
RWD
L-ch
F
R
I S3
II
IC1
μPC1228H
PRE AMP
(8)
(6)
Q2(3)
PB PEAKING
NO-SP H
IC3 (11)
II DECK RPH
L-ch
R
S2
P
REC SIG
EH
X
BIAS OSC
Q8
Q7
BEAT
REG +B
S5
TAPE SELECTOR
IC2
TD62553S
REG +B
Q6(5)
MUTE
SFR8(9)
SFR6(7)
S3-4
(3)
S1
T R-ch
S2
P
R
IC5(6)
M5226P
GEQ
Q25
Q18
REG +B
PB H
Q17
(20)
(19)
DOLBY
IC4
TA-7719P
S7
DOLBY
L·P·F
BALANCE
VOLUME
FM MODE
S6
MONO
ST
REG +B
NC
Rch
Lch OUT
TUNER C.B
IC7
TA7283AP
MAIN AMP
(5)
(2)
SP
Q29
MUTE
R-ch
PHONES
S2
REC
TP +B
PB
LINE +B
S1-3
RADIO/LINE H
TP +B
REC SIG
Q24(23)
PB H
IC8
M5218L
REC, ALC AMP
REC SIG
(1)
(3)
(2)
REG +B
Q27
VOLTAGE REG
Q21(20)
NOR H
Q12
HI-DUB H
Q13
S13 HI DUB
Q11 BASE
NOR H
MUTE +B
+B
IC3
M54514AP
C119
DUB L
Q9
NOR ON
I DECK
S15
Q10
NOR ON
II DECK
S16
IC3 (13)
Q11
LINE +B
SYNC
S12
I F/R
PB H
Q14
SYNC STOP CONTROL
Q15
SYNC STOP CONTROL
RADIO/LINE H
D1
D2
IC3 TO (16)
D3
TP-REC+B
D4
D5
S3
II
I
D6
UM1X9
13.5V
S9
VOLT SELECTOR
F1
S1
AC
I-PLAY
S10
II-PLAY
S11
※ S3(I) at I DECK "PLAY"


L·P·F
FM MODE S6
MONO
ST
REG +B
NC
Rch
L ch OUT
TUNER C.B
S1
T R-ch
IC5(6) M5226P
GEQ
BALANCE
VOLUME
S2 P R
S3-4 (3)
I
II
Q25
(20) (19)
DOLBY
IC4 TA-7719P
S7 DOLBY
Q18
REG +B
Q17
H
IC7 TA7283AP
MAIN AMP
(5) (2)
Q29 MUTE
SP
PHONES
R-ch
LINE +B
S1-3
RADIO/LINE
TP +B
REC SIG
IC8 M5218L
REC, ALC AMP
(1) (3) (2)
Q24(23)
PB
REC SIG
Q21(20)
Q27 VOLTAGE REG
REG +B
MUTE +B
UM1X9 13.5V
S9 VOLT SELECTOR
F1
AC
+B
IC3 M54514AP
I-PLAY S10
II-PLAY S11
※ S3 (I) at I DECK "PLAY"
RADIO/LINE
Q15
SYNC STOP CONTROL

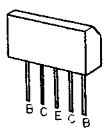
Practical Service Figure

<RADIO SECTION>

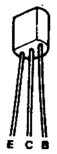
Sensitivity:	E, K, Z models
(IHF. THD 3%)	FM Less than 23 dB (at 100 MHz)
(S/N 10 dB)	SW Less than 30 dB (at 12.0 MHz)
(S/N 10 dB)	MW Less than 46 dB (at 1000 kHz)
(S/N 10 dB)	LW Less than 56 dB (at 200kHz)
	U model
(IFT.THD 3%)	FM Less than 23 dB (at 100 MHz)
(S/N 10dB)	MW Less than 46 dB (at 1000 kHz)
Intermediate frequency:	FM 10.7 MHz
	AM 468 kHz
FM stereo separation:	FM More than 21 dB

<TAPE RECORDER SECTION>

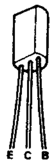
Record bias frequency:	100 kHz (DECK II)
Erasing ratio:	More than 60 dB (DECK II)
Distortion:	Less than 2.5% (PB)
	Less than 3% (REC/PB)
Signal noise ratio:	More than 45 dB
	More than 41 dB (DC/AC. REC/PB)
Noise level:	Less than 0.9 mV (AC)
Wow and Flutter:	Less than 0.35% (RMS) [DECK I]
	Less than 0.35% [DECK II]
Pinch roller pressure:	340±30g [DECK I]
	380±30g [DECK II]
Take up torque:	35^{+35}_{-5} g-cm [DECK I]
	30^{+30}_{-2} g-cm [DECK II]
FF & rewind torque:	80^{+80}_{-0} g-cm [DECK I]
	140^{+0}_{-95} g-cm [DECK II]



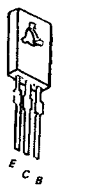
2SC1583



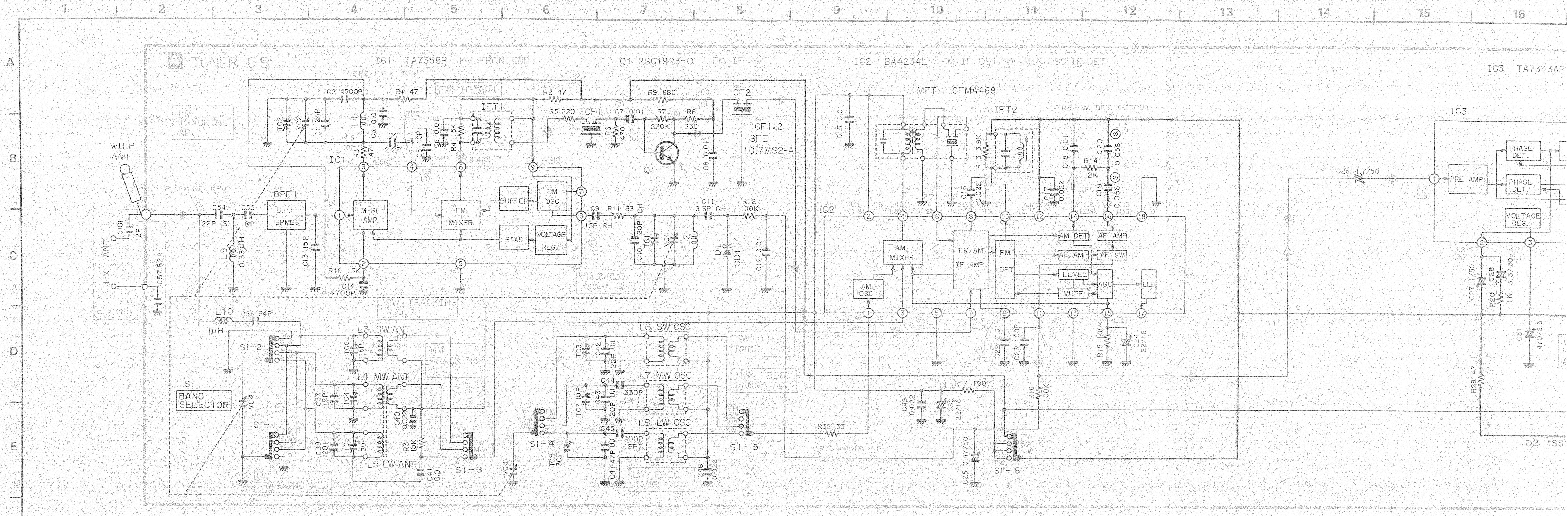
2SA1015
2SC458
2SC1583
2SC1923
2SC2001



2SC1383



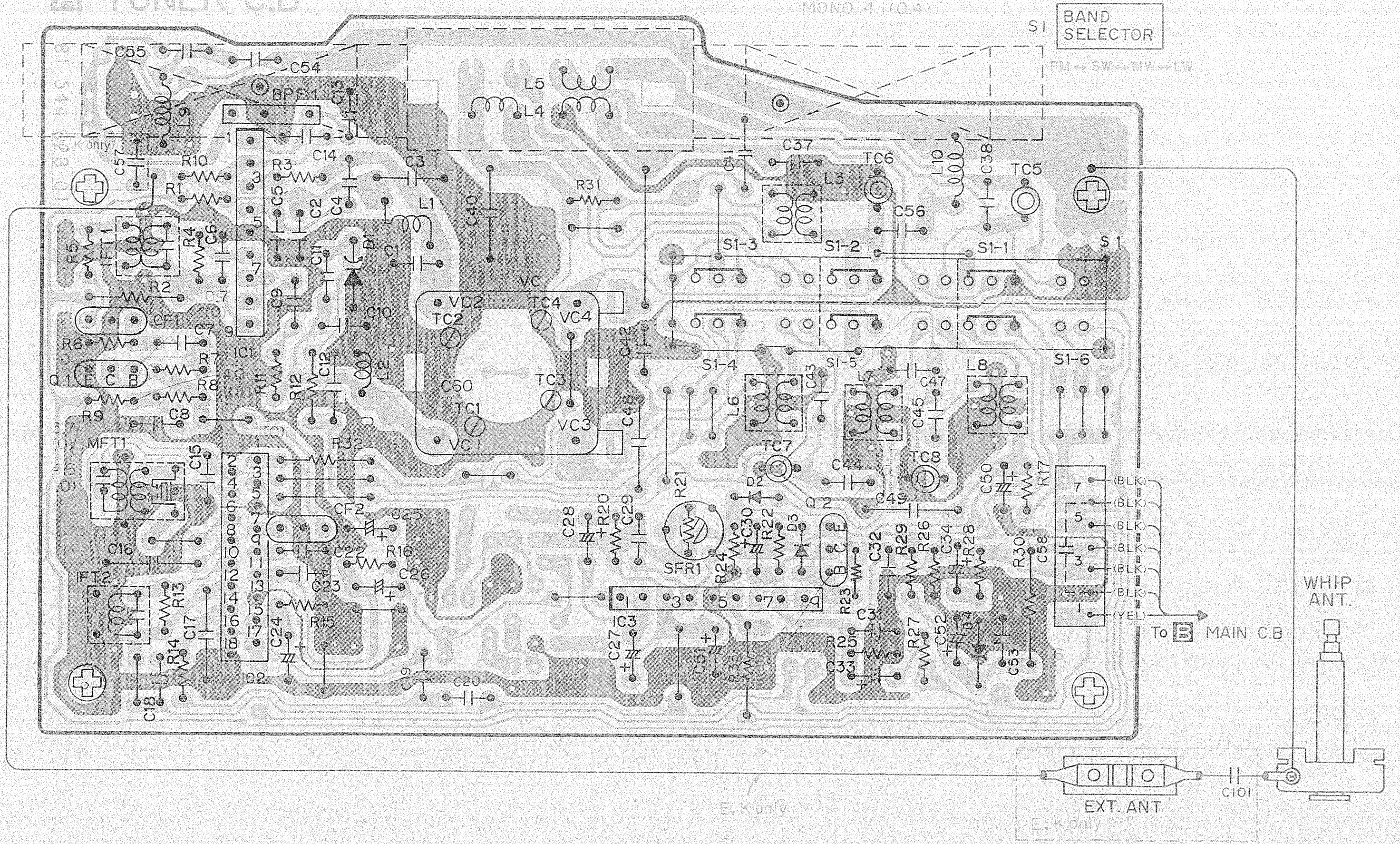
2SC1846

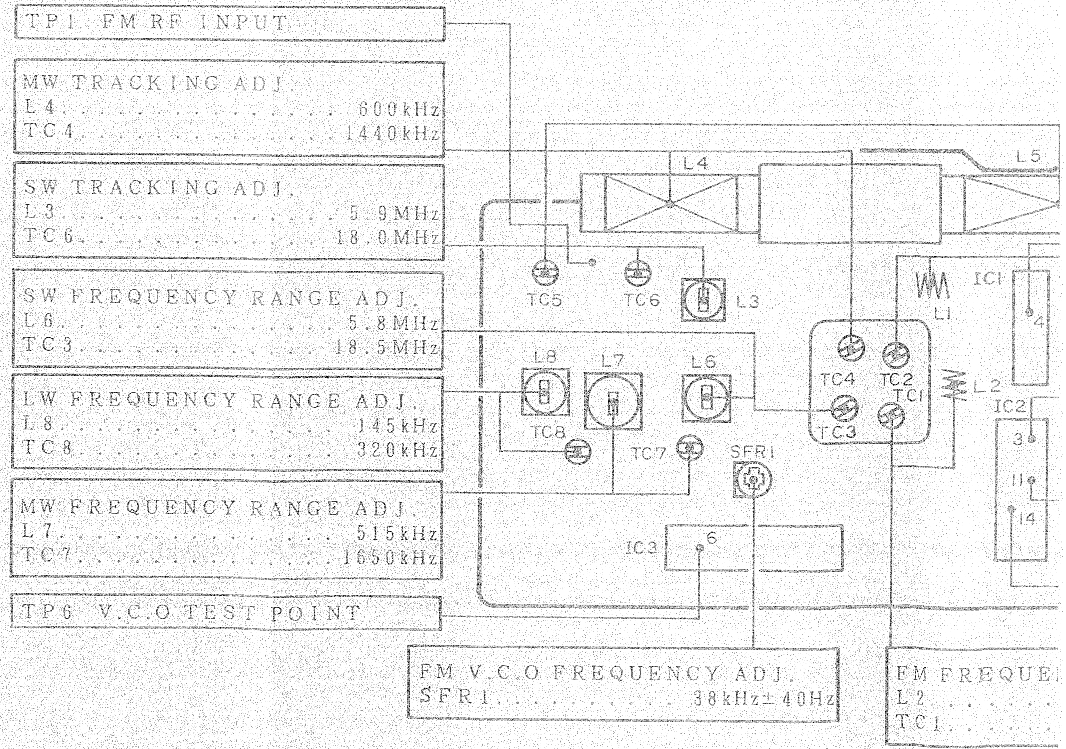

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
A TUNER C.B
IC1 TA7358P FM FRONTEND
Q1 2SC1923-O FM IF AMP.
IC2 BA4234L FM IF DET/AM MIX.OSC.IF.DET
IC3 TA7343AP
TP2 FM IF INPUT
FM IF ADJ.
FM TRACKING ADJ.
WHIP ANT.
TP1 FM RF INPUT
EXT. ANT
E, K only
BPF1
B.P.F BPMB6
FM RF AMP.
FM MIXER
BUFFER
FM OSC
BIAS
VOLTAGE REG.
IFT1
CF1
CF2
CF1,2 SFE 10.7MS2-A
Q1
MFT.1 CFMA468
IFT2
TP5 AM DET. OUTPUT
FM FREQ. RANGE ADJ.
SD117
D1
AM MIXER
AM OSC
FM/AM IF AMP.
FM DET
AM DET
AF AMP
AF SW
LEVEL
MUTE
AGC
LED
PRE AMP.
PHASE DET.
VOLTAGE REG.
SW TRACKING ADJ.
L10 1μH
C56 24P
S1-2
S1 BAND SELECTOR
S1-1
VC4
L3 SW ANT
L4 MW ANT
L5 LW ANT
MW TRACKING ADJ.
LW TRACKING ADJ.
S1-3
S1-4
S1-5
S1-6
L6 SW OSC
L7 MW OSC
L8 LW OSC
SW FREQ. RANGE ADJ.
MW FREQ. RANGE ADJ.
LW FREQ. RANGE ADJ.
TP3 AM IF INPUT
TP3
TP4
R32 33
R17 100
D2 1SS

NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC1	1.2 (0)	1.9 (0)	4.5 (0)	1.9 (0)	0	4.4 (0)	—	4.3 (0)	4.4 (0)									
IC2	0.4 (4.8)	0.4 (4.8)	0.4 (4.8)	0.4 (4.8)	0	3.7 (4.2)	3.7 (4.2)	3.7 (4.2)	3.7 (4.2)	4.7 (5.1)	1.8 (2.0)	4.7 (5.1)	0	3.2 (3.6)	0 (0)	1.3 (1.3)	—	0
IC3	2.7 (2.9)	3.2 (3.7)	4.7 (5.1)	3.8 (3.3)	0	※1	4.0 (5.1)	2.4 (2.8)	2.4 (2.8)									

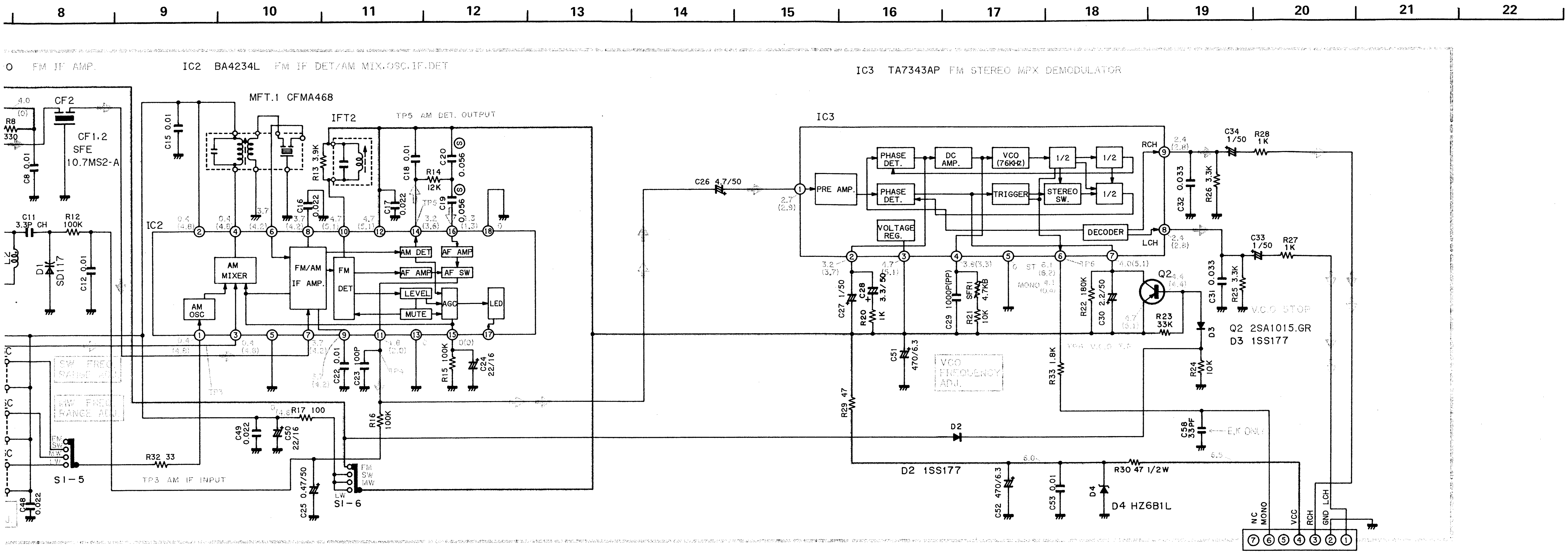
※1
ST 6.1(6.2)
MONO 4.1(0.4)

A TUNER C.B

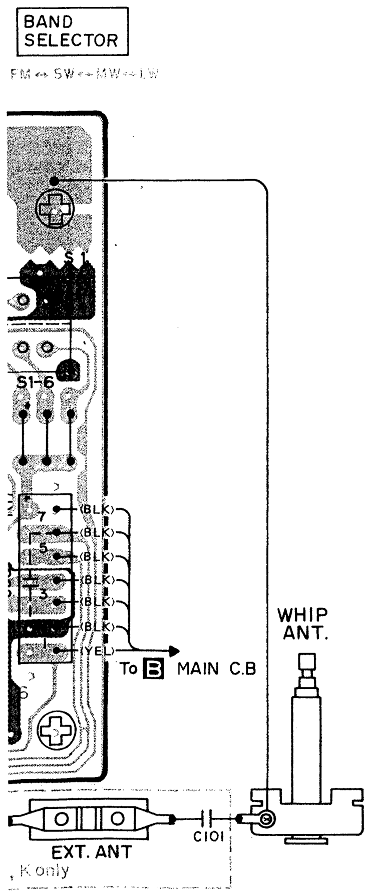

S1 BAND SELECTOR
FM ↔ SW ↔ MW ↔ LW
C55
C54
BPF1
L9
L5
L4
C37
TC6
L10
C38
TC5
R31
C56
S1-3
S1-2
S1-1
S1
VC2
TC2
TC4
VC4
TC1
VC1
VC3
TC3
C60
S1-4
S1-5
S1-6
L6
L8
TC7
TC8
C44
C49
C50
R17
MFT1
IFT1
IFT2
CF1
CF2
Q1
IC1
IC2
IC3
SFR1
(BLK)
(YEL)
To B MAIN C.B
WHIP ANT.
EXT. ANT
C101
E, K only

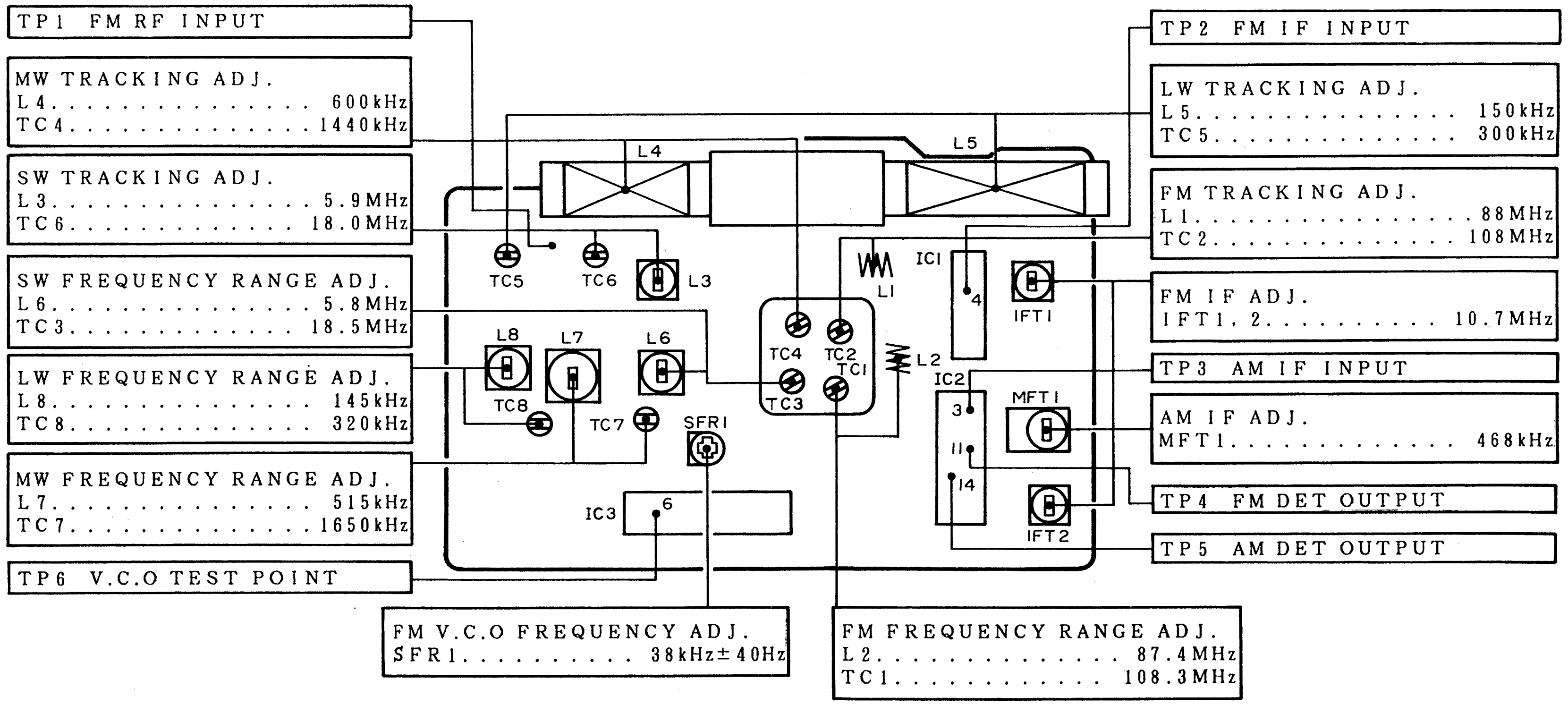

TP1 FM RF INPUT
MW TRACKING ADJ.
L4 .... 600kHz
TC4 .... 1440kHz
SW TRACKING ADJ.
L3 .... 5.9MHz
TC6 .... 18.0MHz
SW FREQUENCY RANGE ADJ.
L6 .... 5.8MHz
TC3 .... 18.5MHz
LW FREQUENCY RANGE ADJ.
L8 .... 145kHz
TC8 .... 320kHz
MW FREQUENCY RANGE ADJ.
L7 .... 515kHz
TC7 .... 1650kHz
TP6 V.C.O TEST POINT
FM V.C.O FREQUENCY ADJ.
SFR1 .... 38kHz± 40Hz
FM FREQUE
L2 ......
TC1 ......
L4
L5
TC5
TC6
L3
L1
IC1
L8
L7
L6
TC8
TC7
SFR1
TC4
TC2
TC1
TC3
L2
IC2
IC3
6
3
11
14
4

NOTES (1) ▨ Earth pattern ▨ Others pattern
The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals.
But ( ) is with AM reception.


8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
FM IF AMP.
IC2 BA4234L FM IF DET/AM MIX.OSC.IF.DET
IC3 TA7343AP FM STEREO MPX DEMODULATOR
CF2
CF1.2 SFE 10.7MS2-A
MFT.1 CFMA468
IFT2
TP5 AM DET. OUTPUT
IC2
AM MIXER
AM OSC
FM/AM IF AMP.
FM DET
AM DET
AF AMP
AF SW
LEVEL
MUTE
AGC
LED
IC3
PHASE DET.
DC AMP.
VCO (76KHz)
1/2
TRIGGER
STEREO SW.
PRE AMP.
VOLTAGE REG.
DECODER
RCH
LCH
C26 4.7/50
C34 1/50
R28 1K
C33 1/50
R27 1K
Q2 2SA1015.GR
D3 1SS177
D2 1SS177
D4 HZ6B1L
R30 47 1/2W
V.C.O STOP
VCO FREQUENCY ADJ.
SW FREQ RANGE ADJ
MW FREQ RANGE ADJ
TP3 AM IF INPUT
S1-5
S1-6
R17 100
R32 33
FM SW MW LW
N C
MONO
VCC
RCH
GND
LCH
⑦⑥⑤④③②①

16	17	18
1.3 (1.3)	—	0


BAND SELECTOR
FM↔SW↔MW↔LW
S1
S1-6
(BLK)
(BLK)
(BLK)
(BLK)
(BLK)
(BLK)
(YEL)
To B MAIN C.B
WHIP ANT.
EXT. ANT
C101
K only


L4
L5
TC5
TC6
L3
L1
IC1
4
IFT1
L8
L7
L6
TC4
TC2
TC1
TC3
L2
IC2
3
MFT1
11
14
TC8
TC7
SFR1
IC3
6
IFT2

TP1 FM RF INPUT

MW TRACKING ADJ.
L4. . . . . 600kHz
TC4. . . . . 1440kHz

SW TRACKING ADJ.
L3. . . . . 5.9MHz
TC6. . . . . 18.0MHz

SW FREQUENCY RANGE ADJ.
L6. . . . . 5.8MHz
TC3. . . . . 18.5MHz

LW FREQUENCY RANGE ADJ.
L8. . . . . 145kHz
TC8. . . . . 320kHz

MW FREQUENCY RANGE ADJ.
L7. . . . . 515kHz
TC7. . . . . 1650kHz

TP6 V.C.O TEST POINT

FM V.C.O FREQUENCY ADJ.
SFR1. . . . . 38kHz±40Hz

FM FREQUENCY RANGE ADJ.
L2. . . . . 87.4MHz
TC1. . . . . 108.3MHz

TP2 FM IF INPUT

LW TRACKING ADJ.
L5. . . . . 150kHz
TC5. . . . . 300kHz

FM TRACKING ADJ.
L1. . . . . 88MHz
TC2. . . . . 108MHz

FM IF ADJ.
IFT1, 2. . . . . 10.7MHz

TP3 AM IF INPUT

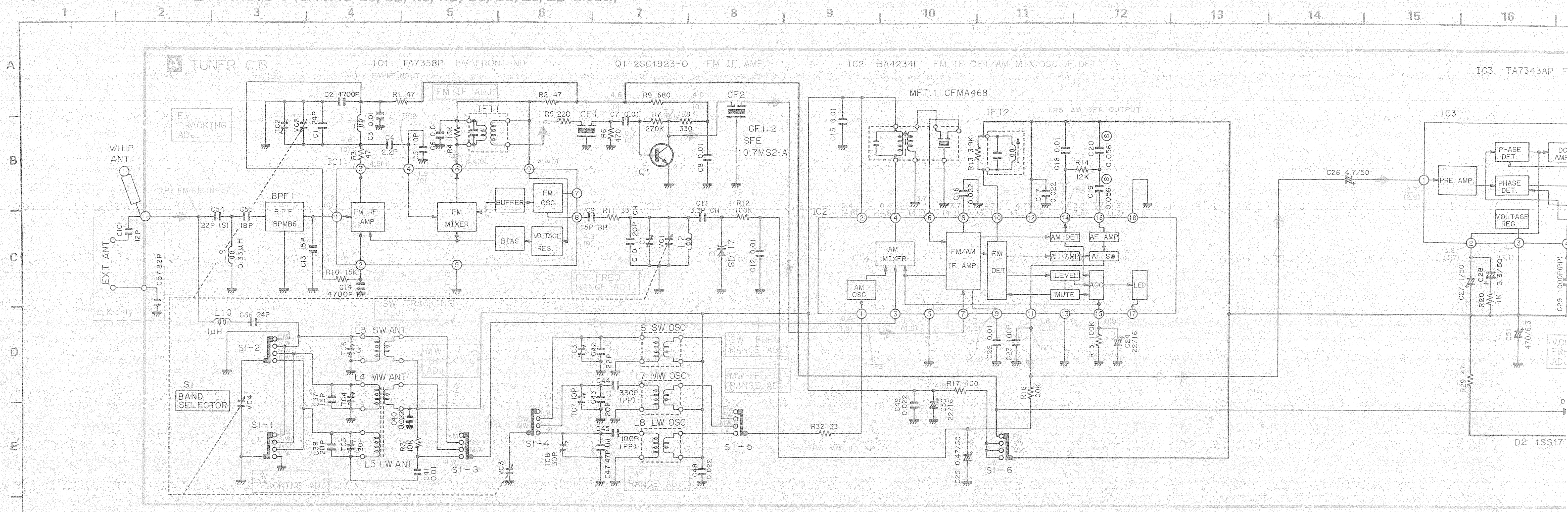
AM IF ADJ.
MFT1. . . . . 468kHz

TP4 FM DET OUTPUT

TP5 AM DET OUTPUT

NOTES (1) ▇ Earth pattern ▨ Others pattern
The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals. But ( ) is with AM reception.

SCHEMATIC DIAGRAM-2 • WIRING-3 (CA-W40 ES, EB, KS, KB, GS, GB, ZS, ZB model)


1
2
3
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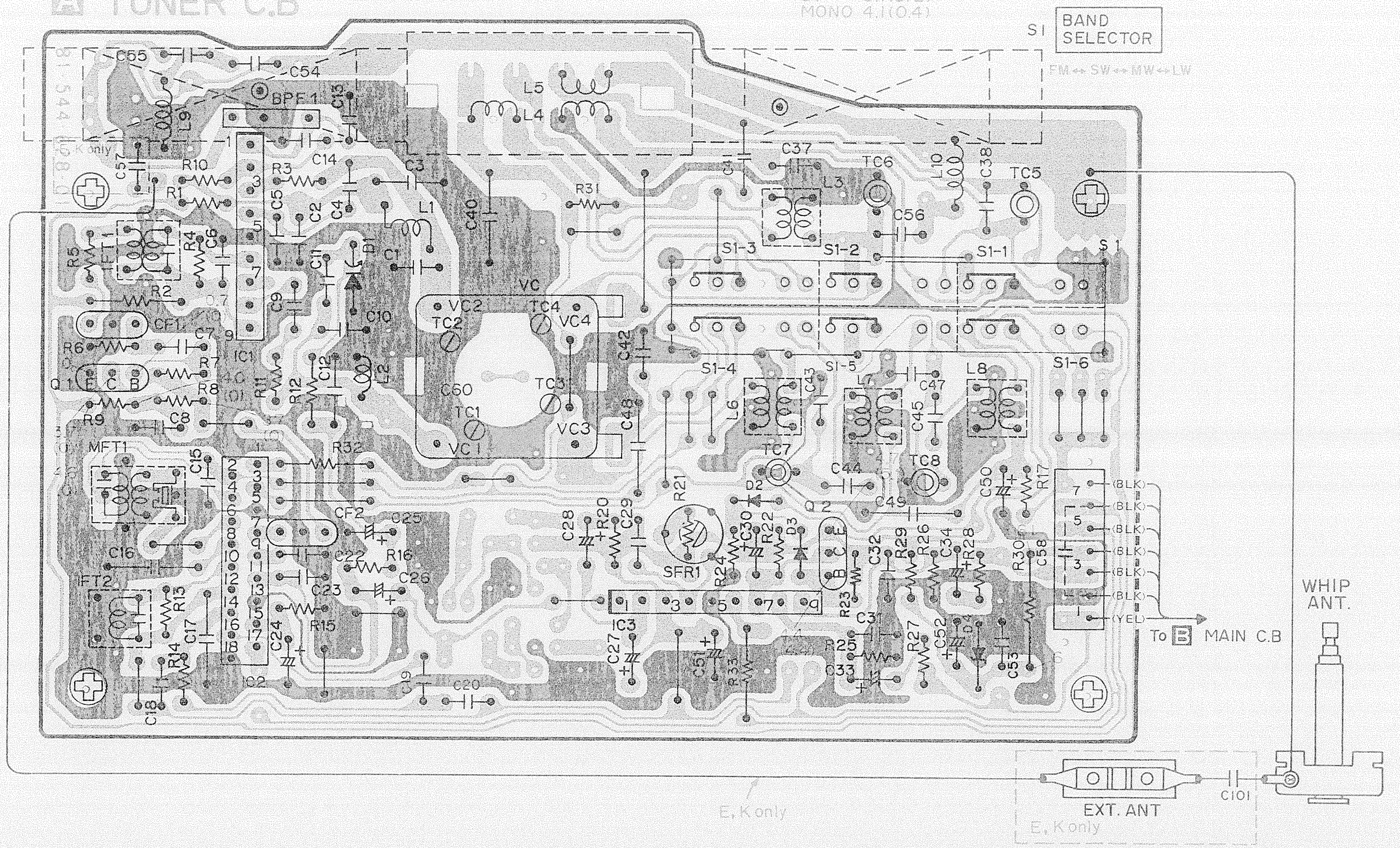
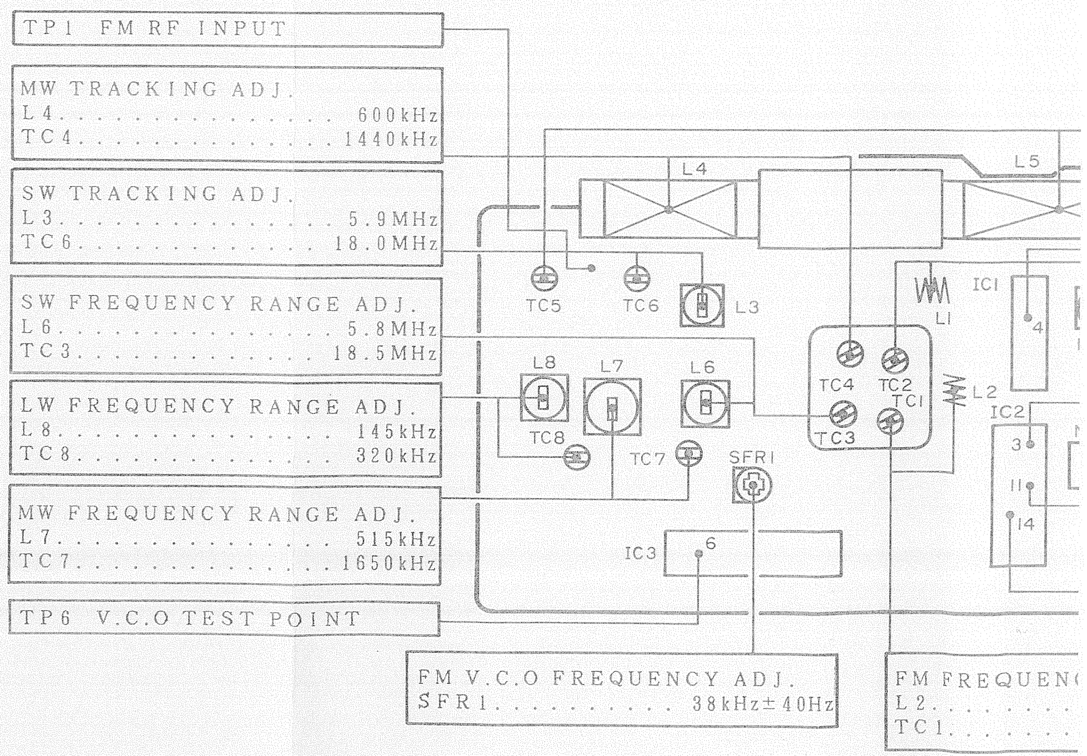
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
A TUNER C.B
IC1 TA7358P FM FRONTEND
Q1 2SC1923-O FM IF AMP.
IC2 BA4234L FM IF DET/AM MIX.OSC.IF.DET
IC3 TA7343AP
TP2 FM IF INPUT
FM TRACKING ADJ.
FM IF ADJ.
IFT1
CF1
CF2
CF1,2 SFE 10.7MS2-A
MFT.1 CFMA468
IFT2
TP5 AM DET. OUTPUT
WHIP ANT.
EXT. ANT
E, K only
TP1 FM RF INPUT
BPF1 B.P.F BPMB6
FM RF AMP.
FM MIXER
BUFFER
FM OSC
BIAS
VOLTAGE REG.
FM FREQ. RANGE ADJ.
SW TRACKING ADJ.
AM MIXER
AM OSC
FM/AM IF AMP.
FM DET
AM DET
AF AMP
AF SW
LEVEL
AGC
MUTE
LED
PRE AMP.
PHASE DET.
VOLTAGE REG.
L3 SW ANT
L4 MW ANT
L5 LW ANT
MW TRACKING ADJ.
LW TRACKING ADJ.
L6 SW OSC
L7 MW OSC
L8 LW OSC
SW FREQ. RANGE ADJ.
MW FREQ. RANGE ADJ.
LW FREQ. RANGE ADJ.
S1 BAND SELECTOR
S1-1
S1-2
S1-3
S1-4
S1-5
S1-6
FM
SW
MW
LW
TP3 AM IF INPUT
TP4
D1 SD117
D2 1SS17
C26 4.7/50
C51 470/6.3
R29 47
R32 33
R17 100
R16 100K
C25 0.47/50

NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC1	1.2 (0)	1.9 (0)	4.5 (0)	1.9 (0)	0	4.4 (0)	—	4.3 (0)	4.4 (0)	/	/	/	/	/	/	/	/	/
IC2	0.4 (4.8)	0.4 (4.8)	0.4 (4.8)	0.4 (4.8)	0	3.7 (4.2)	3.7 (4.2)	3.7 (4.2)	3.7 (4.2)	4.7 (5.1)	1.8 (2.0)	4.7 (5.1)	0	3.2 (3.6)	0 (0)	1.3 (1.3)	—	0
IC3	2.7 (2.9)	3.2 (3.7)	4.7 (5.1)	3.8 (3.3)	0	※1	4.0 (5.1)	2.4 (2.8)	2.4 (2.8)									

※1
ST 6.1(6.2)
MONO 4.1(0.4)

A TUNER C.B


S1 BAND SELECTOR
FM ↔ SW ↔ MW ↔ LW
C55
C54
BPF1
L5
L4
L9
C37
TC6
L3
L10
C38
TC5
C56
S1-3
S1-2
S1-1
S1
MFT1
IFT1
IFT2
IC1
IC2
IC3
VC
TC2
TC4
VC4
TC3
VC3
TC1
VC1
TC7
TC8
L6
L7
L8
S1-4
S1-5
S1-6
SFR1
CF1
CF2
(BLK)
(YEL)
To B MAIN C.B
WHIP ANT.
EXT. ANT
C101
E, K only


L4
L5
TC5
TC6
L3
L8
L7
L6
TC8
TC7
SFR1
TC4
TC2
TC1
TC3
L1
L2
IC1
IC2
IC3

TP1 FM RF INPUT

MW TRACKING ADJ.
L4 . . . . 600kHz
TC4 . . . . 1440kHz

SW TRACKING ADJ.
L3 . . . . 5.9MHz
TC6 . . . . 18.0MHz

SW FREQUENCY RANGE ADJ.
L6 . . . . 5.8MHz
TC3 . . . . 18.5MHz

LW FREQUENCY RANGE ADJ.
L8 . . . . 145kHz
TC8 . . . . 320kHz

MW FREQUENCY RANGE ADJ.
L7 . . . . 515kHz
TC7 . . . . 1650kHz

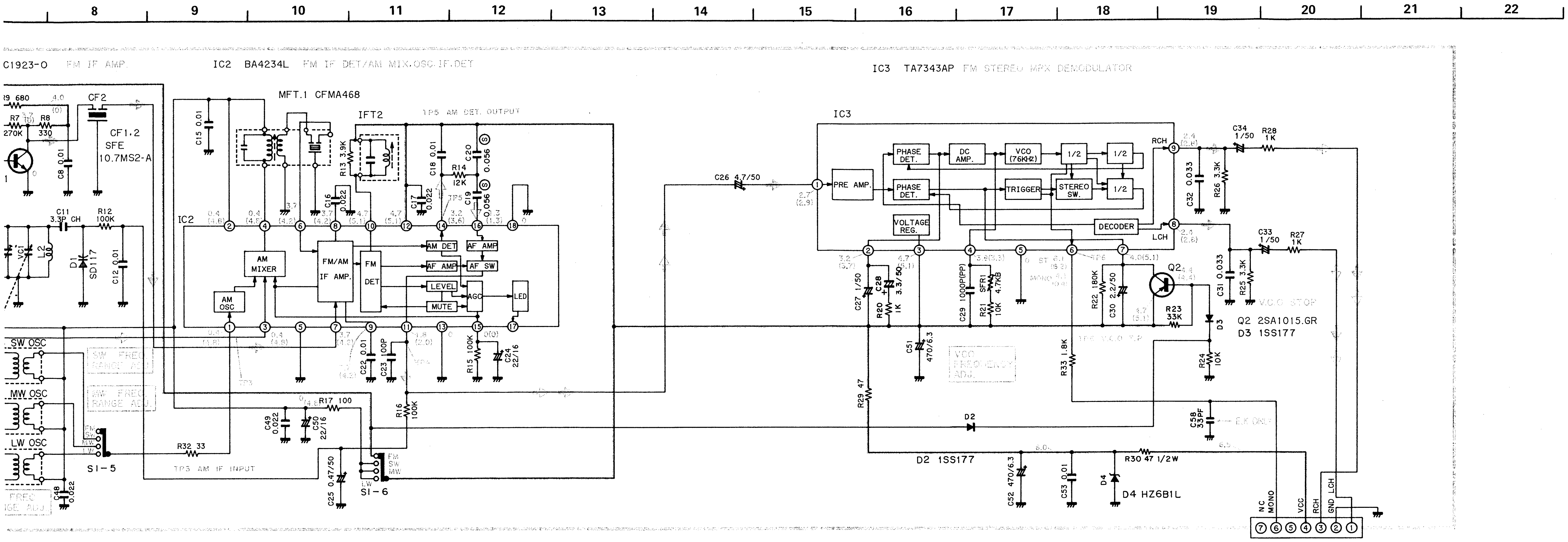
TP6 V.C.O TEST POINT

FM V.C.O FREQUENCY ADJ.
SFR1 . . . . 38kHz ± 40Hz

FM FREQUEN
L2 . . . . . .
TC1 . . . . . .

NOTES (1) ▨ Earth pattern ▨ Others pattern

The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals. But ( ) is with AM reception.


8
9
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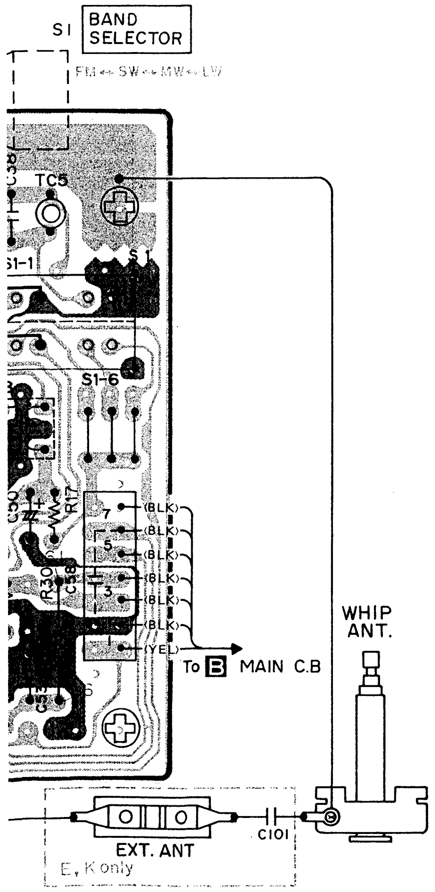
18
19
20
21
22
C1923-O FM IF AMP.
IC2 BA4234L FM IF DET/AM MIX.OSC.IF.DET
IC3 TA7343AP FM STEREO MPX DEMODULATOR
MFT.1 CFMA468
IFT2
CF2
CF1.2
SFE
10.7MS2-A
R7 270K
R8 330
R9 680
C8 0.01
C11 3.3P CH
R12 100K
D1 SD117
C12 0.01
C15 0.01
R13 3.9K
C16 0.022
C17 0.022
C18 0.01
R14 12K
C19 0.056
C20 0.056
TP5 AM DET. OUTPUT
IC2
AM MIXER
AM OSC
FM/AM IF AMP.
FM DET
AM DET
AF AMP
AF SW
LEVEL
MUTE
AGC
LED
SW.OSC
MW.OSC
LW.OSC
SW FREQ RANGE ADJ.
MW FREQ RANGE ADJ.
FREQ RANGE ADJ.
S1-5
S1-6
FM
SW
MW
LW
R32 33
TP3 AM IF INPUT
R17 100
C49 0.022
C50 22/16
R16 100K
C22 0.01
C23 100P
R15 100K
C24 22/16
C25 0.47/50
C48 0.022
TP3
TP4
C26 4.7/50
IC3
PRE AMP.
PHASE DET.
DC AMP.
VCO (76KHz)
1/2
TRIGGER
STEREO SW.
VOLTAGE REG.
DECODER
RCH
LCH
C34 1/50
R28 1K
C33 1/50
R27 1K
C32 0.033
R26 3.3K
C31 0.033
R25 3.3K
V.C.O STOP
Q2
Q2 2SA1015.GR
D3 1SS177
C27 1/50
C28 3.3/50
R20 1K
C29 1000P(PP)
SFR1
R21 10K
4.7KB
R22 180K
C30 2.2/50
R23 33K
D3
TP6 V.C.O T.P
VCO FREQUENCY ADJ.
C51 470/6.3
R33 1.8K
R24 10K
R29 47
D2
C58 33PF
E,K ONLY
D2 1SS177
C52 470/6.3
C53 0.01
D4
R30 47 1/2W
D4 HZ6B1L
NC
MONO
VCC
RCH
GND
LCH
⑦ ⑥ ⑤ ④ ③ ② ①

14	15	16	17	18
2 .6)	0 (0)	1.5 (1.3)	—	0


S1
BAND SELECTOR
FM ← SW ← MW ← LW
TC5
S1
S1-1
S1-6
R17
C58
(BLK)
(BLK)
(BLK)
(BLK)
(BLK)
(YEL)
To B MAIN C.B
WHIP ANT.
EXT. ANT
C101
E, K only

TP1 FM RF INPUT

MW TRACKING ADJ.	
L4	600kHz
TC4	1440kHz

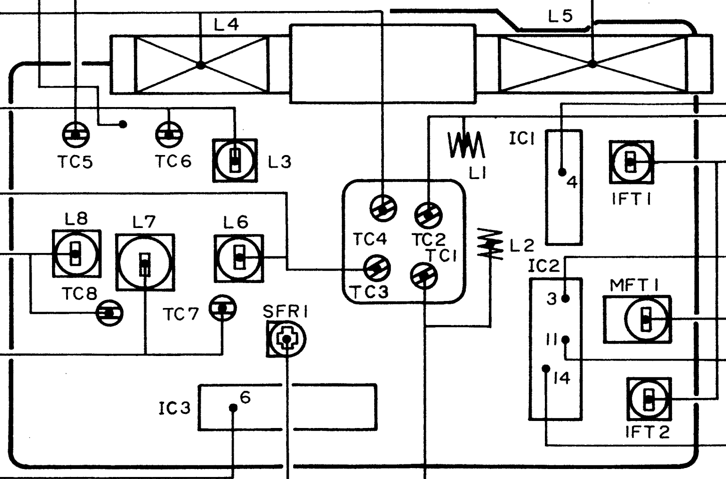
SW TRACKING ADJ.	
L3	5.9MHz
TC6	18.0MHz

SW FREQUENCY RANGE ADJ.	
L6	5.8MHz
TC3	18.5MHz

LW FREQUENCY RANGE ADJ.	
L8	145kHz
TC8	320kHz

MW FREQUENCY RANGE ADJ.	
L7	515kHz
TC7	1650kHz

TP6 V.C.O TEST POINT


L4
L5
TC5
TC6
L3
L8
L7
L6
TC8
TC7
SFR1
TC4
TC2
TC1
TC3
L1
L2
IC1
4
IFT1
IC2
3
11
14
MFT1
IFT2
IC3
6

FM V.C.O FREQUENCY ADJ.	
SFR1	38kHz± 40Hz

FM FREQUENCY RANGE ADJ.	
L2	87.4MHz
TC1	108.3MHz

TP2 FM IF INPUT

LW TRACKING ADJ.	
L5	150kHz
TC5	300kHz

FM TRACKING ADJ.	
L1	88MHz
TC2	108MHz

FM IF ADJ.	
IFT1, 2	10.7MHz

TP3 AM IF INPUT

AM IF ADJ.	
MFT1	468kHz

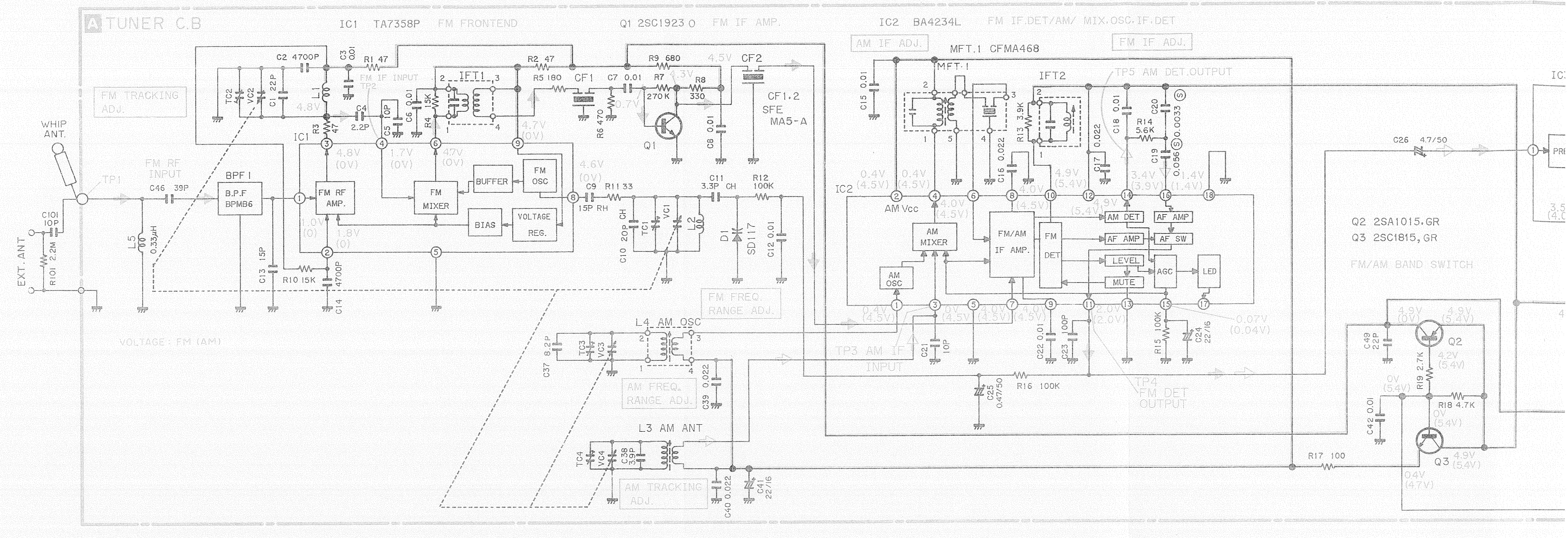
TP4 FM DET OUTPUT

TP5 AM DET OUTPUT

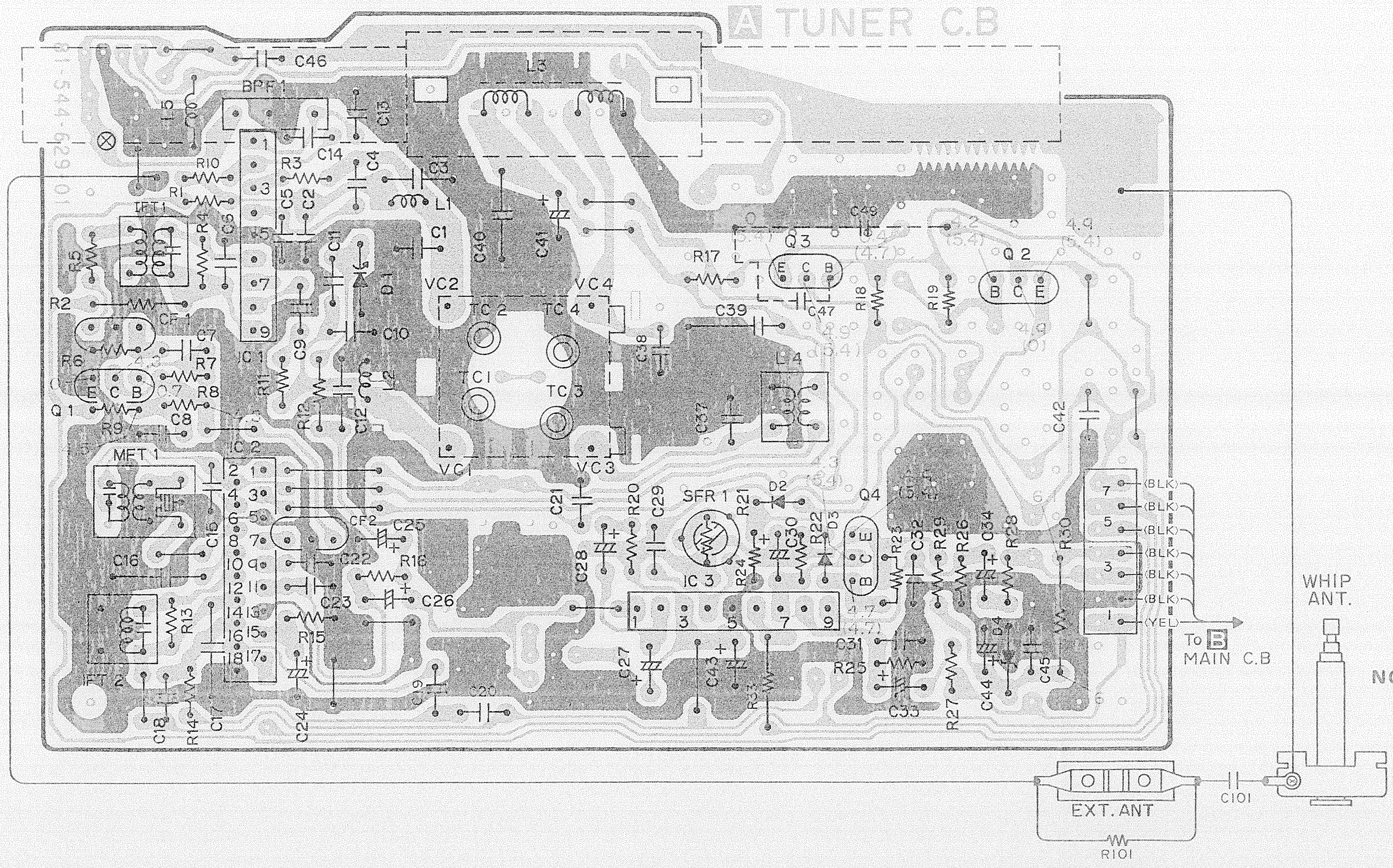
NOTES (1) ▇ Earth pattern ▒ Others pattern

The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals. But ( ) is with AM reception.

SCHEMATIC DIAGRAM -3 • WIRING -4 (CA-W40 UB, CB model)

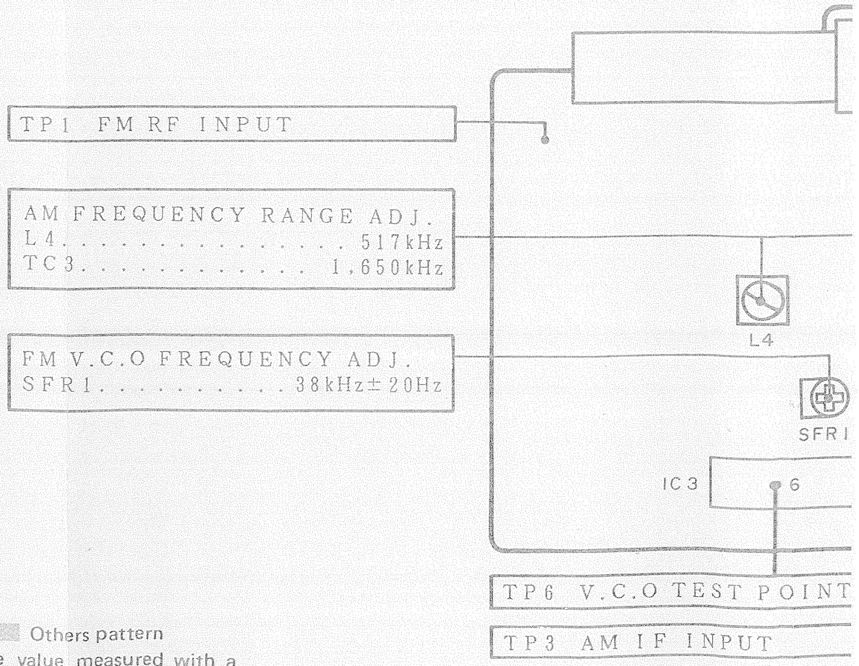

A TUNER C.B
IC1 TA7358P FM FRONTEND
Q1 2SC1923 O FM IF AMP.
IC2 BA4234L FM IF.DET/AM/ MIX.OSC.IF.DET
AM IF ADJ.
FM IF ADJ.
MFT.1 CFMA468
IFT1
IFT2
CF1
CF2
CF1.2 SFE MA5-A
TP5 AM DET.OUTPUT
FM TRACKING ADJ.
WHIP ANT.
TP1
FM RF INPUT
BPF1
B.P.F BPMB6
FM RF AMP.
FM MIXER
BUFFER
FM OSC
BIAS
VOLTAGE REG.
EXT. ANT
VOLTAGE : FM (AM)
FM IF INPUT TP2
L4 AM OSC
FM FREQ. RANGE ADJ.
AM FREQ. RANGE ADJ.
L3 AM ANT
AM TRACKING ADJ.
TP3 AM IF INPUT
TP4 FM DET OUTPUT
AM Vcc
AM MIXER
AM OSC
FM/AM IF AMP.
FM DET
AM DET
AF AMP
AF SW
LEVEL
MUTE
AGC
LED
Q2 2SA1015.GR
Q3 2SC1815.GR
FM/AM BAND SWITCH
R17 100
R16 100K
C26 4.7/50

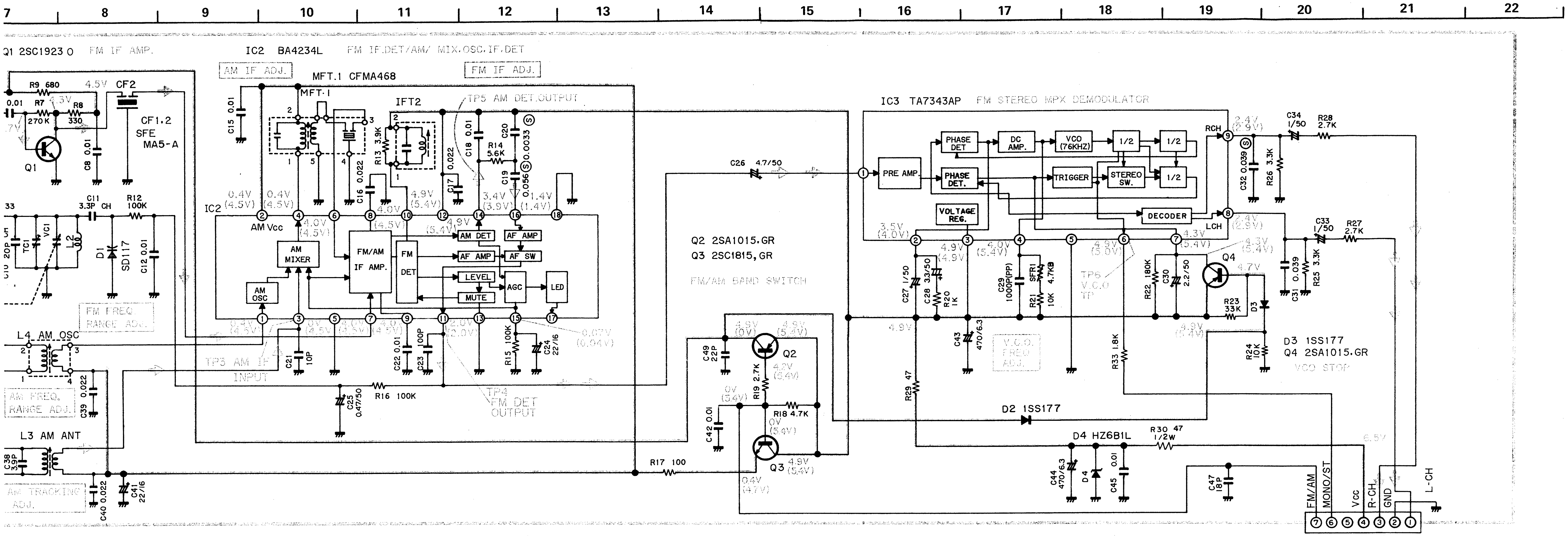
NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC1	1.0 (0)	1.8 (0)	4.8 (0)	1.7 (0)	—	4.7 (0)	3.9 (0)	4.6 (0)	4.7 (0)									
IC2	0.4 (4.5)	0.4 (4.5)	0 (4.5)	0.4 (4.5)	—	4.0 (4.5)	4.0 (4.5)	4.0 (4.5)	4.0 (4.5)	4.9 (5.4)	2.0 (2.0)	4.9 (5.4)	—	3.4 (3.9)	0.07 (0.04)	1.4 (1.4)	—	—
IC3	2.8 (3.0)	3.5 (4.0)	4.9 (4.9)	4.0 (5.4)	—	4.9 (5.0)	4.3 (5.4)	2.4 (2.4)	2.4 (2.9)									

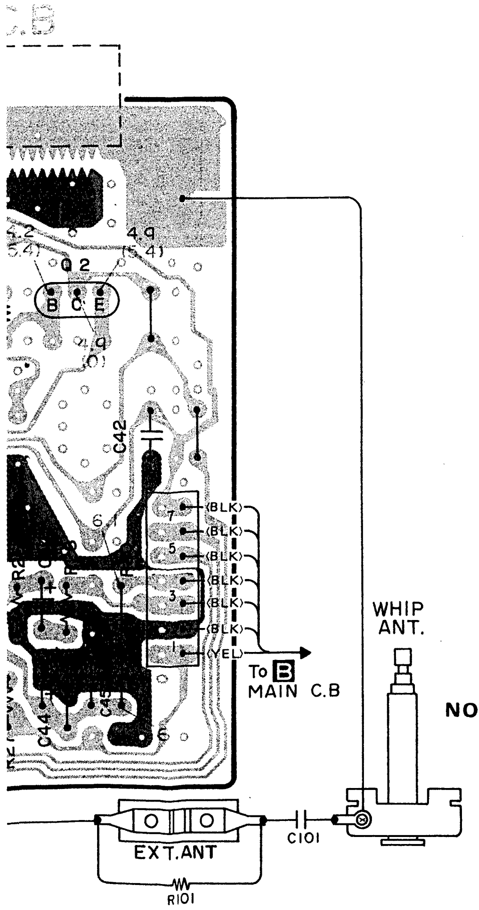

A TUNER C.B
C46
BPF1
L3
IFT1
MFT1
Q1
Q2
Q3
Q4
IC1
IC2
IC3
TC1
TC2
TC3
TC4
VC1
VC2
VC3
VC4
SFR1
CF1
CF2
L4
To B MAIN C.B
WHIP ANT.
EXT. ANT
C101
R101

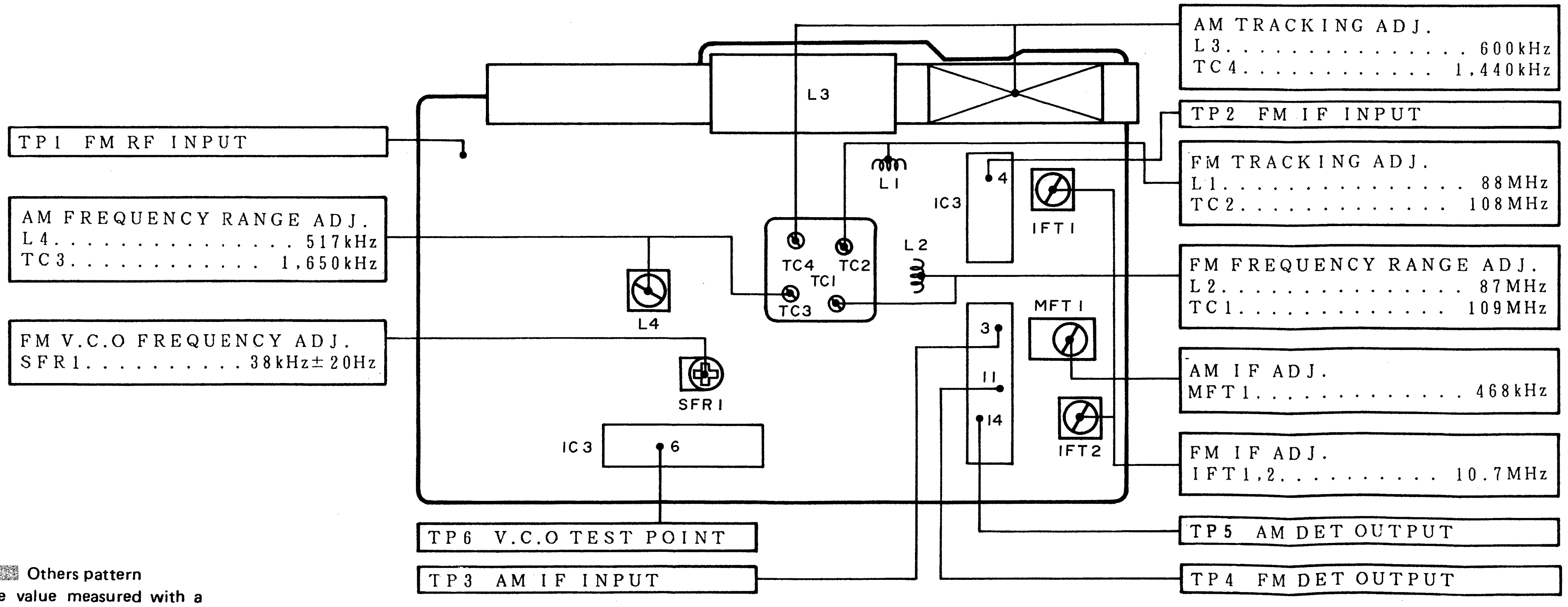
NOTES (1) ▨ Earth pattern ▨ Others pattern

The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals. But ( ) is with AM reception.


TP1 FM RF INPUT
AM FREQUENCY RANGE ADJ.
L4. . . . . 517kHz
TC3. . . . . 1,650kHz
FM V.C.O FREQUENCY ADJ.
SFR1. . . . . 38kHz±20Hz
L4
SFR1
IC3
6
TP6 V.C.O TEST POINT
TP3 AM IF INPUT


7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
Q1 2SC1923 O FM IF AMP.
IC2 BA4234L FM IF.DET/AM/ MIX.OSC.IF.DET
AM IF ADJ.
FM IF ADJ.
MFT.1 CFMA468
IFT2
TP5 AM DET.OUTPUT
R9 680
R7 270K
R8 330
CF2
CF1.2 SFE MA5-A
Q1
C8 0.01
C15 0.01
C16 0.022
C17 0.022
C18 0.01
R13 3.9K
R14 5.6K
C20 0.0033
C19 0.056
C11 3.3P CH
R12 100K
TC1
VC1
L2
D1 SD117
C12 0.01
IC2
AM Vcc
AM MIXER
AM OSC
FM/AM IF AMP.
FM DET
AM DET
AF AMP
AF SW
LEVEL
MUTE
AGC
LED
FM FREQ RANGE ADJ.
L4 AM OSC
TP3 AM IF INPUT
C21 10P
C22 0.01
C23 100P
R15 100K
C24 22/16
TP4 FM DET OUTPUT
R16 100K
C25 0.47/50
AM FREQ. RANGE ADJ.
C39 0.022
L3 AM ANT
C38 3.9P
AM TRACKING ADJ.
C40 0.022
C41 22/16
R17 100
C26 4.7/50
Q2 2SA1015.GR
Q3 2SC1815.GR
FM/AM BAND SWITCH
C49 22P
R19 2.7K
R18 4.7K
C42 0.01
IC3 TA7343AP FM STEREO MPX DEMODULATOR
PRE AMP.
PHASE DET
DC AMP.
VCO (76KHZ)
1/2
PHASE DET.
TRIGGER
STEREO SW.
VOLTAGE REG.
DECODER
RCH
LCH
C27 1/50
C28 33/50
R20 1K
C29 1000P(PP)
SFR1 4.7KB
R21 10K
TP6 V.C.O TP
C43 470/6.3
V.C.O. FREQ ADJ.
R22 180K
C30 2.2/50
R23 33K
Q4
D3
R24 10K
R33 1.8K
R29 47
D2 1SS177
D4 HZ6B1L
R30 47 1/2W
C44 470/6.3
C45 0.01
C47 18P
C32 0.039
R26 3.3K
C34 1/50
R28 2.7K
C33 1/50
R27 2.7K
C31 0.039
R25 3.3K
D3 1SS177
Q4 2SA1015.GR
VCO STOP
FM/AM
MONO/ST
Vcc
R-CH
GND
L-CH
⑦ ⑥ ⑤ ④ ③ ② ①

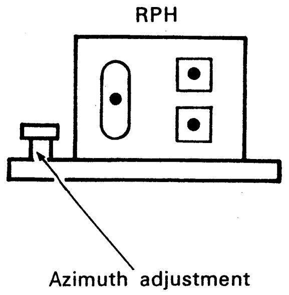

Q2
B C E
C42
(BLK)
(YEL)
To B MAIN C.B
WHIP ANT.
EXT.ANT
C101
R101

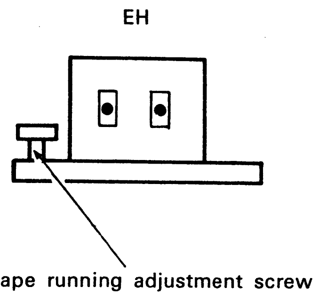

AM TRACKING ADJ.
L3. . . . . 600kHz
TC4. . . . . 1,440kHz
TP2 FM IF INPUT
TP1 FM RF INPUT
FM TRACKING ADJ.
L1. . . . . 88MHz
TC2. . . . . 108MHz
AM FREQUENCY RANGE ADJ.
L4. . . . . 517kHz
TC3. . . . . 1,650kHz
FM FREQUENCY RANGE ADJ.
L2. . . . . 87MHz
TC1. . . . . 109MHz
FM V.C.O FREQUENCY ADJ.
SFR1. . . . . 38kHz± 20Hz
AM IF ADJ.
MFT1. . . . . 468kHz
FM IF ADJ.
IFT1,2. . . . . 10.7MHz
TP6 V.C.O TEST POINT
TP5 AM DET OUTPUT
TP3 AM IF INPUT
TP4 FM DET OUTPUT
L3
L1
IC3
IFT1
TC4
TC2
TC1
TC3
L2
L4
MFT1
SFR1
IFT2
IC3
3
4
6
11
14

NOTES (1) ▆ Earth pattern ▒ Others pattern
The voltage is the reference value measured with a tster (20k ohms/V DC) when there are no signals.
But ( ) is with AM reception.

ADJUSTMENT

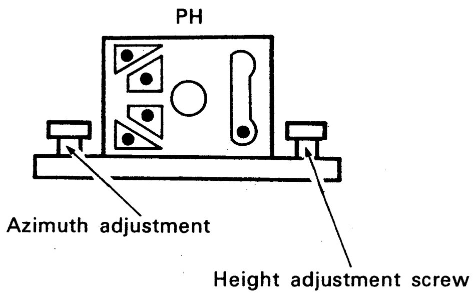
[II DECK]





1. **Azimuth Adjustment (II DECK)**
   Condition: Test tape: TTA-113B
   Adjustment location: Azimuth adjustment screw
2. **EH Head Adjustment**
   Condition: Cassette tape for running adjustment
   Adjustment location: Tape running adjustment screw

[I DECK]



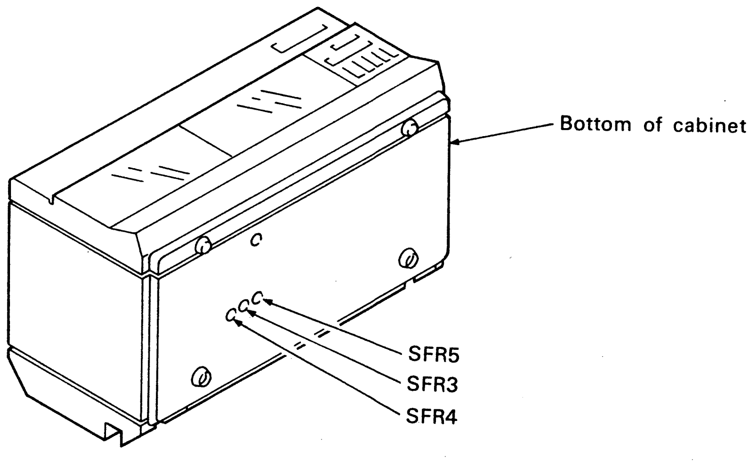
3. **Tape Running Azimuth Adjustment (I DECK)**
   1. Mount a cassette tape for running adjustment which has a notch in the mirror cassette tape or the head section.
   2. Adjust the azimuth and the height adjustment screw so that the tape guide does not contact the tape when the head is raised by pressing the PLAY button.
   3. Adjust the azimuth by turning the azimuth adjument screw.
      Then, confirm the azimuth by runnig the tape inversely. (Test tape: TTA-113B)
   4. Confirm again the tape running of Step 2. At this point, if the tape contacts the tape guide, perform readjustment from Step 2.

4. **Tape Speed Adjustment**

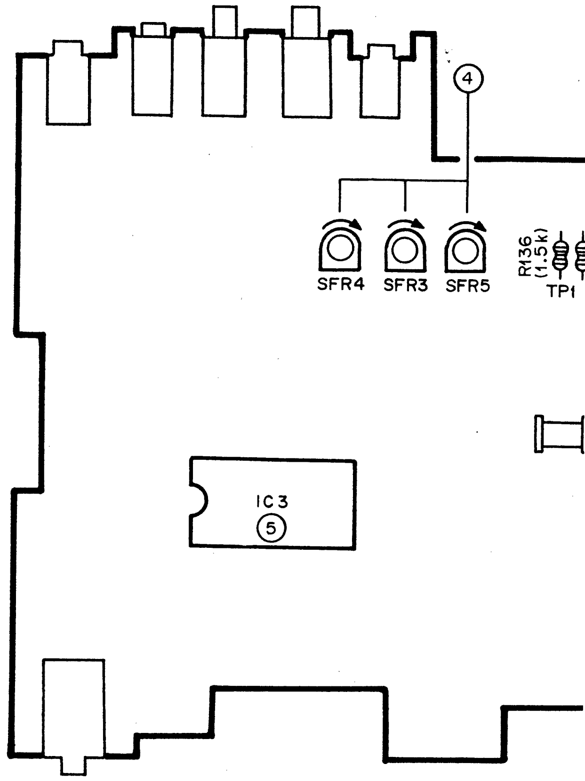
Condition

Item	High speed		Normal speed	
	II DECK	I DECK	I DECK	II DECK
Adjustment procedure	1	2	3	4
Test tape	TTA-111H	TTA-111H	TTA-111S	TTA-111S
Adjusting location	non-adjustment	SFR4	SFR3	SFR5
Method	Connect pin ⑤ of IC3 to the ground and confirm the tape speed by playback.	Adjust so that it becomes the same tape speed as that of II DECK.	Adjust so that the tape speed becomes 3 kHz.	Adjust so that the tape speed becomes 3 kHz.

Note 1. Be sure to perform the speed adjustment beginning with the high speed adjustment.



MAIN C.B



The direction of arrow becomes maximum.

5. **PB Sensitivity Adjustment**
   Setting:
   - Test tape: TTA-161
   - DOLBY NR "OFF", TAPE SELECTOR "NORMAL"
   - Test point: TP2 (Lch), TP3 (Rch)
   - Adjustment location: SFR6 (I Deck, Lch)
     SFR7 (I Deck, Rch)
     SFR9 (II Deck, Rch)
     SFR8 (II Deck, Lch)

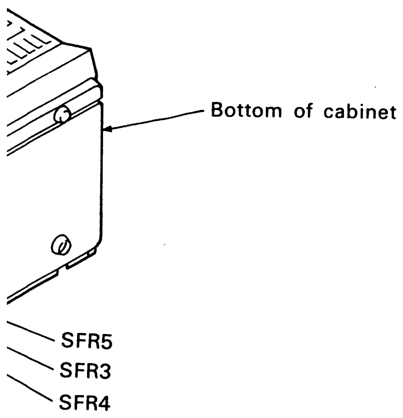
   Method:
   Play back the test tape.
   Adjust so that the test point output is set to 300 mV ±40mV.
   Adjust both I and II Decks.

6. **Bias Curre**
   Setting:
   - Test ta
   - Test po
   - Adjustm

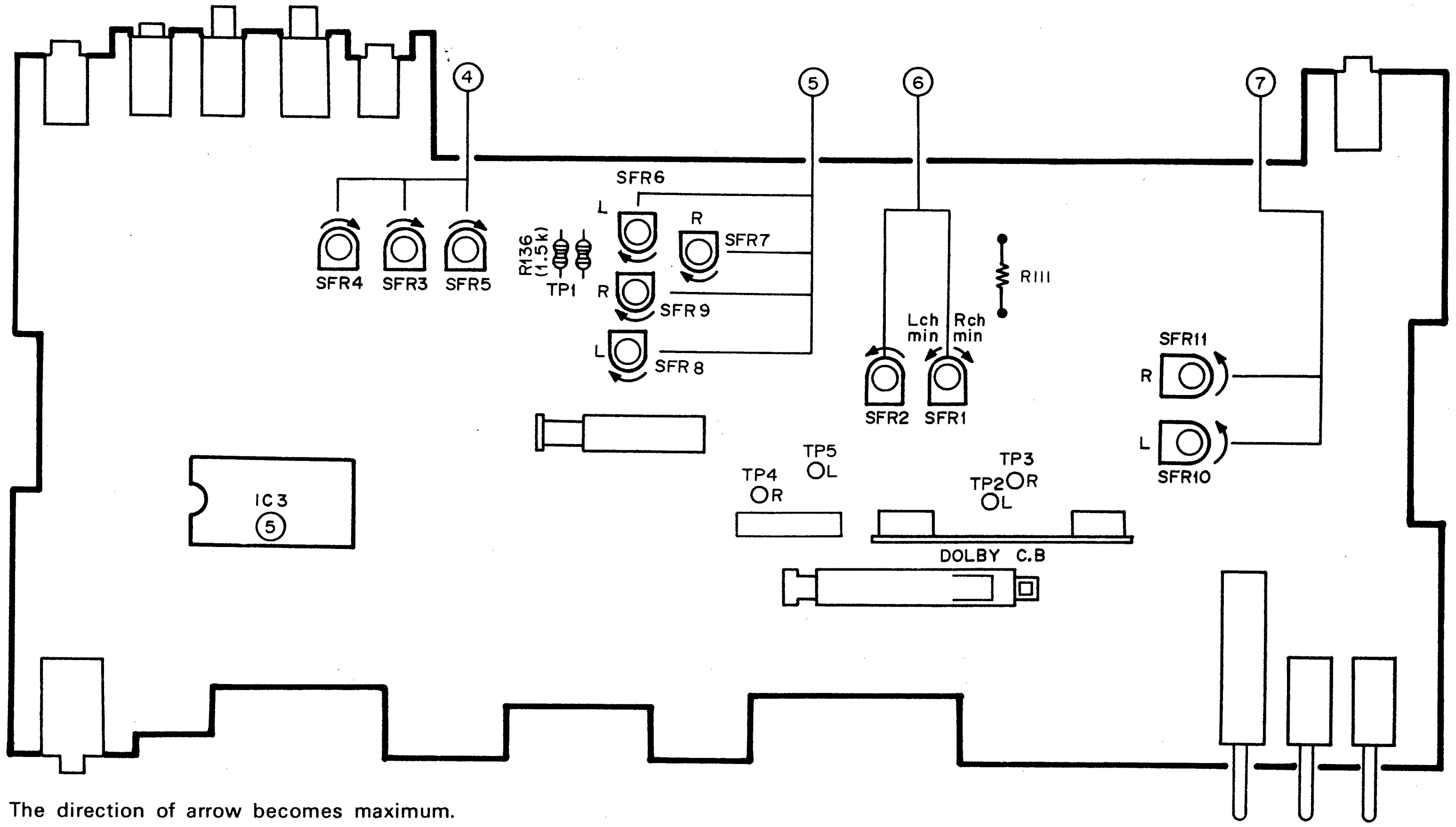
   Method:
   Put II Deck
   output lev
   adjust SFR
   38 mV.

	Normal speed	
DECK	I DECK	II DECK
2	3	4
TA-111H	TTA-111S	TTA-111S
SFR4	SFR3	SFR5
so that it es the same tape as that of II	Adjust so that the tape speed becomes 3 kHz.	Adjust so that the tape speed becomes 3 kHz.

with the high speed adjustment.


Bottom of cabinet
SFR5
SFR3
SFR4

MAIN C.B


④
⑤
⑥
⑦
SFR4
SFR3
SFR5
R136 (1.5k)
TP1
SFR6
L
R
SFR7
R
SFR9
L
SFR8
Lch min
Rch min
SFR2
SFR1
RIII
SFR11
R
L
SFR10
IC3
⑤
TP4
OR
TP5
OL
TP3
TP2OR
OL
DOLBY C.B

The direction of arrow becomes maximum.

5. PB Sensitivity Adjustment

Setting:
- Test tape: TTA-161
- DOLBY NR "OFF", TAPE SELECTOR "NORMAL"
- Test point: TP2 (Lch), TP3 (Rch)
- Adjustment location: SFR6 (I Deck, Lch)
  SFR7 (I Deck, Rch)
  SFR9 (II Deck, Rch)
  SFR8 (II Deck, Lch)

Method:
Play back the test tape.
Adjust so that the test point output is set to 300 mV ±40mV.
Adjust both I and II Decks.

6. Bias Current Adjustment

Setting:
- Test tape: TTA-119J
- Test point: TP4 (Rch), TP5 (Lch)
- Adjustment location: SFR1
  SFR2

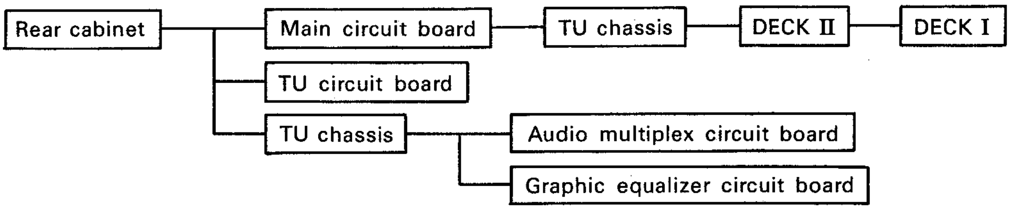
Method:
Put II Deck into recording state and adjust SFR1 so that the output levels of TP4 and TP5 become the same. Then, adjust SFR2 so that the output levels of them become 38 mV.

7. REC Current Adjustment

Setting:
- Test tape: TTA-119J
- DOLBY NR "OFF", TAPE SELECTOR "NOR"
- Test point: TP4 (Rch), TP5 (Lch)
- Adjustment location: SFR11 (Rch) SFR10 (Lch)

Method:
Cut off either one of the R111 to stop recording bias.
Connect 340 mV (1 kHz) to the LINE IN to put it into recording state.
Adjust SFR10 and 11 so that the individual voltages of TP4 and TP5 become 4 mV.

DISASSEMBLY INSTRUCTIONS


Rear cabinet
Main circuit board
TU chassis
DECK II
DECK I
TU circuit board
TU chassis
Audio multiplex circuit board
Graphic equalizer circuit board

1. Disassembly of Rear Cabinet

1) Remove battery lid.
2) Remove 6 screws, and remove rear cabinet in the direction of arrow.
   (See Fig. 1)

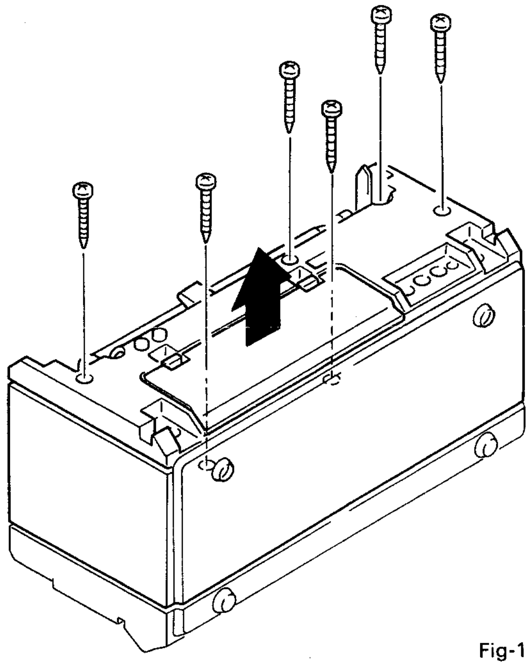


Fig-1

2. Disassembly of Main C.B

1) Remove fasteners of the flat cable.
2) Remove 4 screws and 3 knobs and remove the circuit board in the direction of arrow.
   (See Fig. 2)

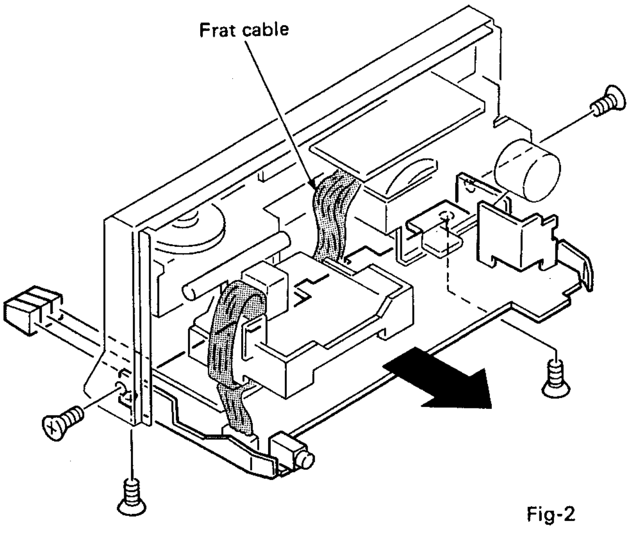


Fig-2

3. Disassembly of Mechanism

Note) When removing mechanism, always be sure to perform removal after removing the main board. There is the danger of the board switch being deformed.

1) Remove 1 screw and remove TU chassis.
   (See Fig. 3)
2) Disassembly of mechanism (DECKS I and II)
   Removal of DECK II
      Remove 3 screws.
      (See Fig. 3)
   Removal of DECK I
      Remove 3 screws and 2 knobs.
      (See Fig. 3 and 4)

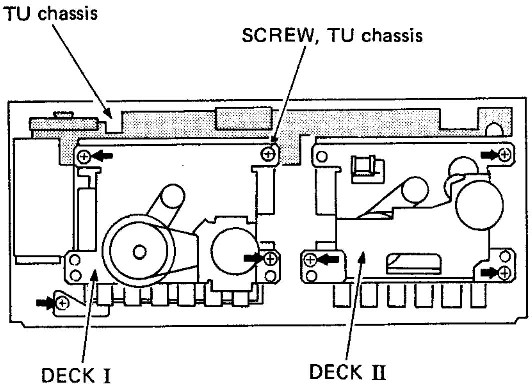

TU chassis
SCREW, TU chassis
DECK I
DECK II

Fig-3

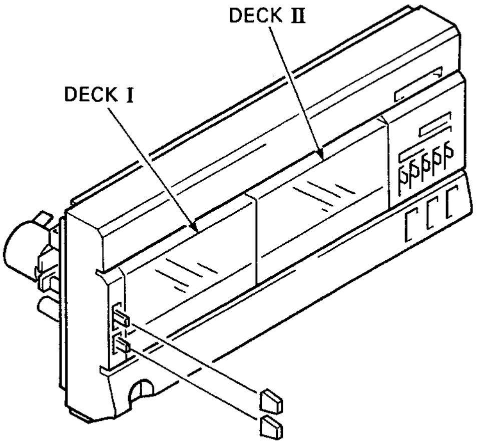
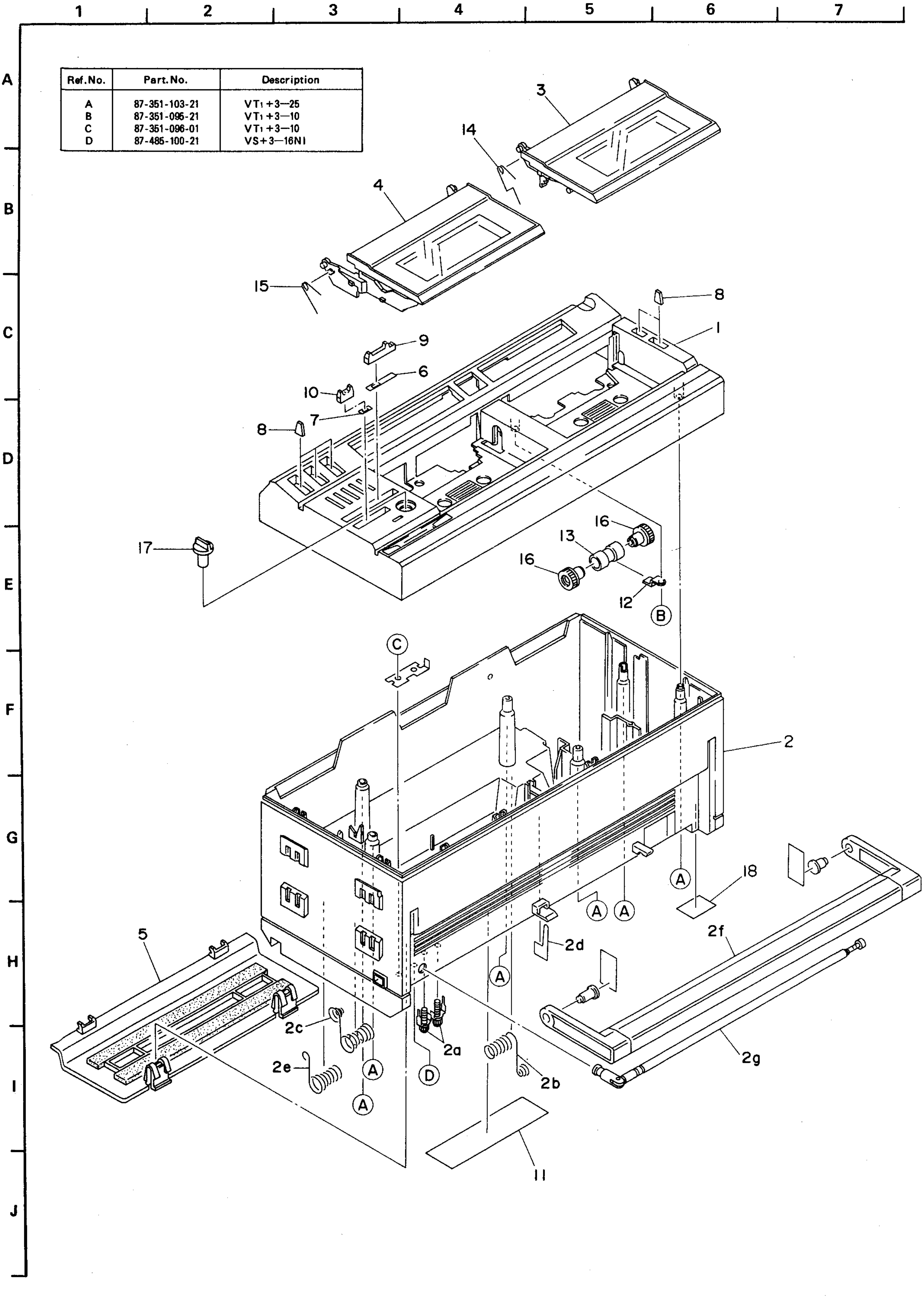

DECK II
DECK I

Fig-4

EXPLODED VIEW-1


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
3
14
4
15
8
1
9
6
10
7
8
17
16
13
16
12
Ⓑ
Ⓒ
2
Ⓐ
18
Ⓐ
Ⓐ
2d
2f
5
2c
2a
2e
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Ref.No.	Part.No.	Description
A	87-351-103-21	VT_1 +3—25
B	87-351-095-21	VT_1 +3—10
C	87-351-096-01	VT_1 +3—10
D	87-485-100-21	VS+3—16NI

MECHANICAL PARTS LIST

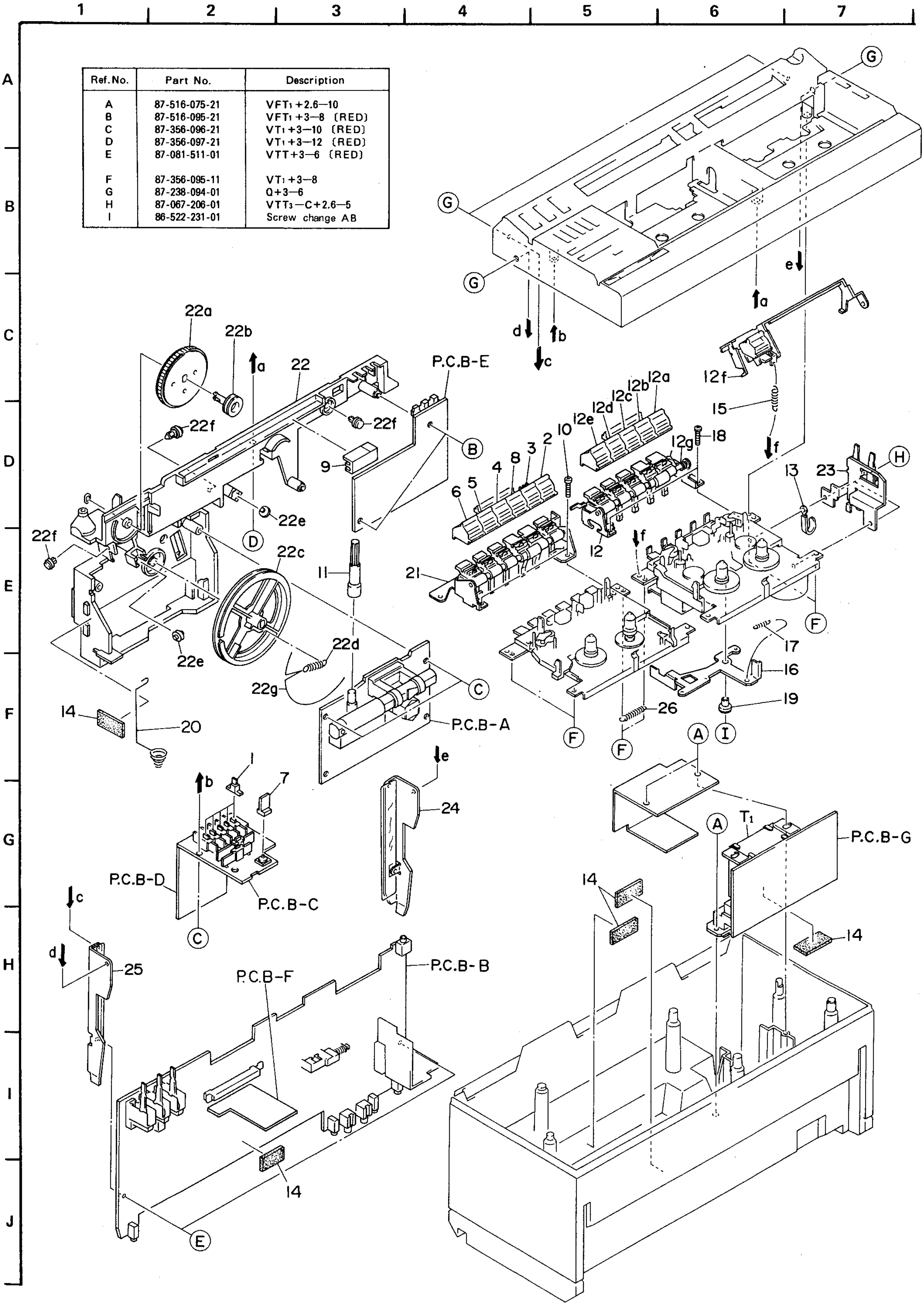
- ※-mark in this part list shows exclusive part.
- ★-mark means less required items and availabilities may be limited.
- No availability part is warked with ——— in Part No. list.

(S)=SILVER, (B)=BLACK

Part No. Changed to	Ref.No.	Part No.	Description	Common Model	Q'ty
	1-1	★81-550-109	MAIN CABINET Ass'y (S) (H, G only)	※	1
		★81-550-110	MAIN CABINET Ass'y (B) (H, HU, G only)	※	1
		★81-550-111	MAIN CABINET Ass'y (B) (U, C only)	※	1
		★81-550-112	MAIN CABINET Ass'y (S) (E, K, Z only)	※	1
		★81-550-113	MAIN CABINET Ass'y (B) (E, K, Z only)	※	1
	1-2	★81-550-116	REAR CABINET Ass'y (S) (H, E, K, G only)	※	1
		★81-550-117	REAR CABINET Ass'y (B) (H, HU, E, K, G only)	※	1
		★81-550-134	REAR CABINET Ass'y (B) (U, C only)	※	1
		★81-550-120	REAR CABINET Ass'y (S) (Z only)	※	1
		★81-550-121	REAR CABINET Ass'y (B) (Z only)	※	1
	2a	★81-515-633	EXTERNAL ANTENNA TERMINAL S	CA-70	2
	2b	81-528-214	C-SPRING, BATTERY B	CA-30	1
	2c	81-528-215	C-SPRING, BATTERY C	CA-30	1
	2d	81-528-216	BATTERY WR	CA-30	1
	2e	81-541-216	C-SPRING, BATTERY A	CA-W90	1
	2f	★81-547-030	HANDLE ARM Ass'y (S)		1
		★81-547-043	HANDLE ARM Ass'y (B)		1
	2g	87-043-080	WHIP ANT		1
	1-3	81-550-030	CASSETTE BOX L	※	1
	1-4	81-550-054	CASSETTE BOX R Ass'y	※	1
	1-5	81-550-052	LID BATTERY Ass'y (S)	※	1
		81-550-051	LID BATTERY Ass'y (B)	※	1
	1-6	★81-550-222	FILM, VOLUME	※	1
	1-7	★81-550-223	FILM, BALANCE	※	1
	1-8	81-539-015	KNOB, TOGGLE		5
	1-9	81-550-013	SLIDE KNOB, VOLUME	※	1
	1-10	81-550-014	SLIDE KNOB, BALANCE	※	1
	1-11	—	PLATE, SPEC.		1
	1-12	★81-539-233	METAL FITTING, OIL-DAMP		1
	1-13	★81-544-231	SHAFT BEARING, OIL-DAMP	CS-W550	1
	1-14	★81-550-202	T-SPRING, CASSETTE BOX-L	※	1
	1-15	★81-550-214	T-SPRING, CASSETTE BOX-R	※	1
	1-16	82-138-254	GEAR OIL-DAMP Ass'y	FX-W20	2
	1-17	★82-576-029	KNOB, SELECTOR S (EXCEPT U, C)		1
	1-18	★82-550-105	VOLTAGE SELECTOR PLATE S (HU, U, C only)	※	1

EXPLODED VIEW-2

Ref.No.	Part No.	Description
A	87-516-075-21	VFT$_1$ +2.6—10
B	87-516-095-21	VFT$_1$ +3—8 〔RED〕
C	87-356-096-21	VT$_1$ +3—10 〔RED〕
D	87-356-097-21	VT$_1$ +3—12 〔RED〕
E	87-081-511-01	VTT+3—6 〔RED〕
F	87-356-095-11	VT$_1$ +3—8
G	87-238-094-01	Q+3—6
H	87-067-206-01	VTT$_3$—C+2.6—5
I	86-522-231-01	Screw change AB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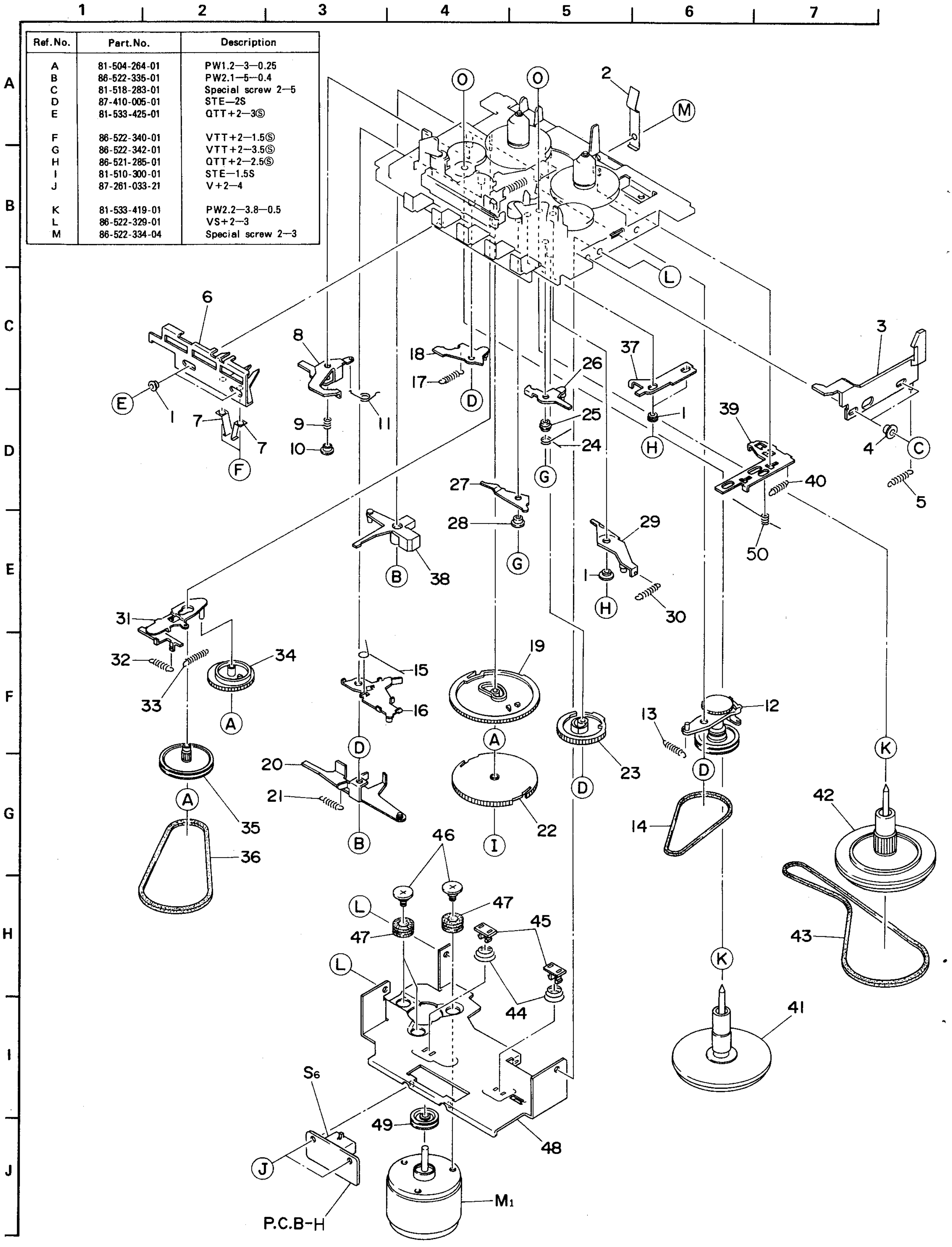
Part No. Changed to	Ref.No.	Part No.	Description	Common Model	Q'ty
	2-1	★81-550-015	SLIDE KNOB, GRAPHIC E.Q	※	5
	2-2	★81-550-016	PUSH-BUTTON, REC	※	1
	2-3	★81-550-017	PUSH-BUTTON, REW	※	1
	2-4	★81-550-019	PUSH-BUTTON, FF	※	1
	2-5	★81-550-020	PUSH-BUTTON, STOP	※	1
	2-6	★81-550-021	PUSH-BUTTON, PAUSE	※	1
	2-7	★81-550-122	PUSH-BUTTON, DOLBY	※	1
	2-8	★81-550-027	PUSH-BUTTON, PLAY	※	1
	2-9	★81-550-009	TU POINTER	※	1
	2-10	★81-550-211	SPECIAL SCREW V+2—7	※	2
	2-11	★81-533-286	JOINT BAND KNOB (EXCEPT U, C)	CA-W50	1
	2-12	★86-522-203	BUTTON FLAME L Ass'y		1
	12a	★81-550-017	PUSH-BUTTON, REW	※	1
	12b	★81-550-018	PUSH-BUTTON, PLAY REVERSE	※	1
	12c	★81-550-019	PUSH-BUTTON, FF	※	1
	12d	★81-550-020	PUSH-BUTTON, STOP	※	1
	12e	★81-550-021	PUSH-BUTTON, PAUSE	※	1
	12f	★86-522-215	SYNCHRO LEVER Ass'y		1
	12g	★86-522-219	T-SPRING, SYNCHRO LEVER		1
	2-13	—	WIRE BINDER		1
	2-14	—	CUSHION 30-15		5
	2-15	★86-522-224	E-SPRING, DOUBLE SPEED		1
	2-16	★86-522-225	AB SELECT Ass'y		1
	2-17	★86-522-229	E-SPRING, AB SELECT		1
	2-18	★86-522-233	SPECIAL SCREW V+2—7.5		2
	2-19	★86-522-236	COLLAR, AB SELECT		1
	2-20	★81-550-220	SPRING, ANT	※	1
	2-21	★86-521-203	BUTTON FLAME Ass'y-R		1
	2-22	★81-550-221	TU CHASSIS Ass'y	※	1
	22a	★81-533-013	KNOB, TU	CA-W50	1
	22b	★81-533-202	SHAFT, TU	CA-W50	1
	22c	★81-544-205	DIAL DRUM	CS-W550	1
	22d	★81-544-228	E-SPRING, DIAL	CS-W550	1
	22e	★82-439-317	ROLLER		2
	22f	★87-071-019	ROLLER $\phi 7$		3
	22g	★87-096-090	DIAL STRING 0.3		1
	2-23	★81-550-206	HOLDER REVERSE Ass'y	※	1
	2-24	—	HOLDER MAIN CABINET L Ass'y		1
	2-25	—	HOLDER MAIN CABINET R Ass'y		1
	2-26	★81-544-228	E-SPRING, DIAL		1

EXPLODED VIEW-3

Ref.No.	Part.No.	Description
A	81-504-264-01	PW1.2—3—0.25
B	86-522-335-01	PW2.1—5—0.4
C	81-518-283-01	Special screw 2—5
D	87-410-005-01	STE—2S
E	81-533-425-01	QTT+2—3Ⓢ
F	86-522-340-01	VTT+2—1.5Ⓢ
G	86-522-342-01	VTT+2—3.5Ⓢ
H	86-521-285-01	QTT+2—2.5Ⓢ
I	81-510-300-01	STE—1.5S
J	87-261-033-21	V+2—4
K	81-533-419-01	PW2.2—3.8—0.5
L	86-522-329-01	VS+2—3
M	86-522-334-04	Special screw 2—3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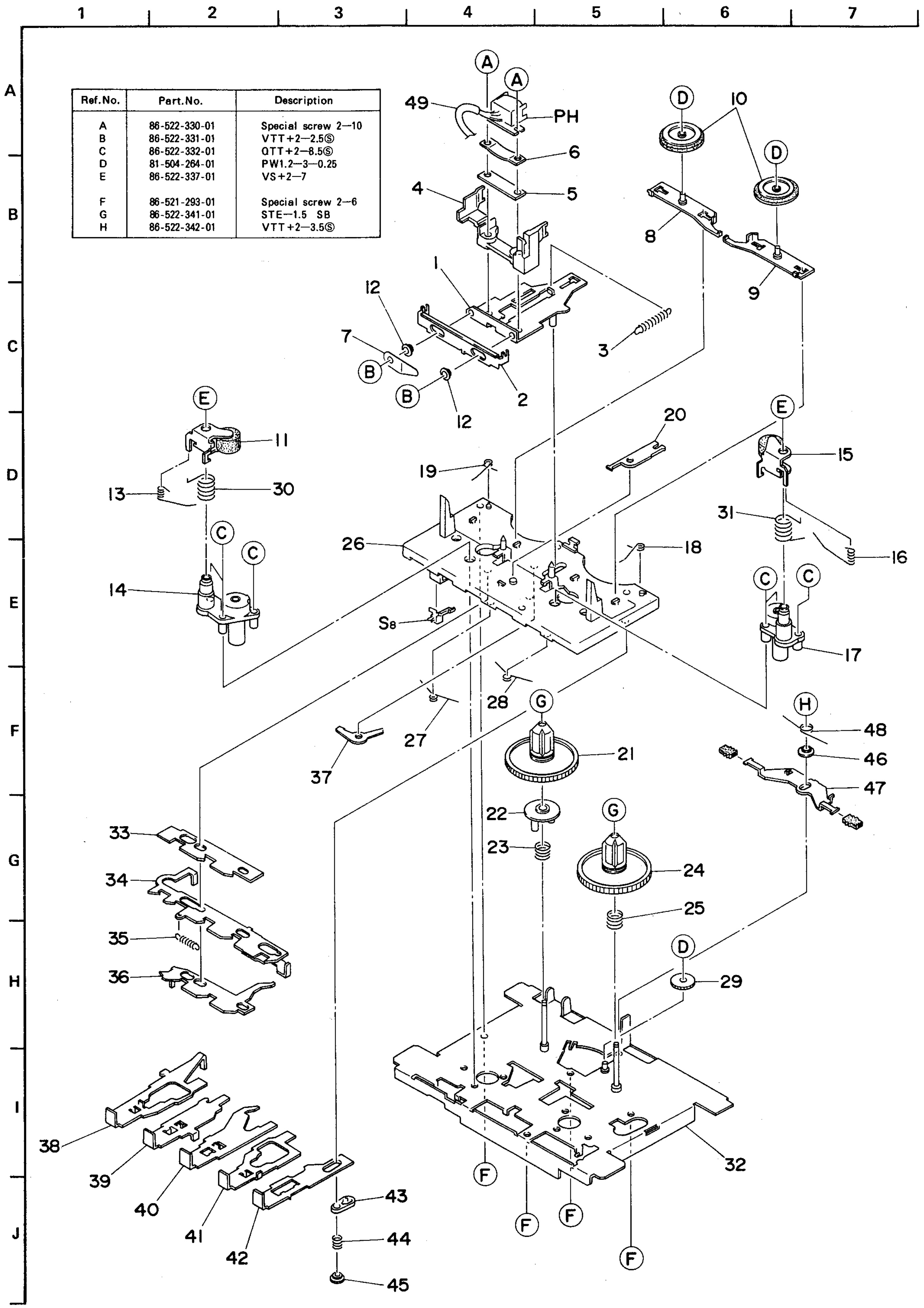
Part No. Changed to	Ref.No.	Part No.	Description	Common Model	Q'ty	
	3-	★86-526-201	PLAY MECHANISM Ass'y B		1	
	3-1	★86-522-240	CH SLIDE LEVER COLLAR		5	
	3-2	★86-522-349	PACK BEARING SP PLATE		1	
	3-3	★86-522-269	E SLIDE LEVER		1	
	3-4	★86-522-270	COLLAR		2	
	3-5	★86-522-271	E SLIDE LEVER SP		1	
	3-6	—	CH SLIDE LEVER		1	
	3-7	★86-522-274	SW SP PLATE		2	
	3-8	—	M SELECT LEVER		1	
	3-9	★86-522-286	SELECT LEVER SP		1	
	3-10	★86-522-287	M BUSH		1	
	3-11	★86-522-288	M SELECT LEVER SP B		1	
	3-12	86-522-289	RF CLUTCH Ass'y		1	
	3-13	★86-521-249	RF PULLEY ARM SP		1	
	3-14	86-522-350	RF BELT		1	
	3-15	★86-522-292	LIFT SP		1	
	3-16	★86-522-293	LIFT ARM		1	
	3-17	★86-522-294	M TRIGGER ARM SP		1	
	3-18	★86-522-295	M TRIGGER ARM		1	
	3-19	86-522-296	M GEAR		1	
	3-20	★86-522-297	CH LEVER		1	
	3-21	★86-522-298	CH LEVER SP		1	
	3-22	86-522-299	CH GEAR Ass'y		1	
	3-23	86-522-300	P GEAR		1	
	3-24	★86-522-301	P TRIGGER ARM SP		1	
	3-25	★86-522-302	P TRIGGER COLLAR		2	
	3-26	★86-522-303	P TRIGGER ARM		1	
	3-27	—	RF TRIGGER ARM		1	
	3-28	★86-522-305	RF COLLAR		1	
	3-29	★86-522-306	P ACTUATING ARM		1	
	3-30	★86-522-307	P ACTUATING ARM SP		1	
	3-31	★86-522-308	CAM GEAR PLATE		1	
	3-32	★86-522-309	CENSOR PLATE SP		1	
	3-33	★86-522-310	CAM GEAR PLATE SP		1	
	3-34	86-522-311	CAM GEAR		1	
	3-35	86-522-312	PULLEY		1	
	3-36	86-522-313	FULL AUTO BELT		1	
	3-37	—	RF LEVER		1	
	3-38	★86-522-315	DETECTION PLATE		1	
	3-39	—	CONTROL LEVER		1	
	3-40	★86-522-317	CONTROL LEVER SP		1	
	3-41	86-522-318	FL PULLEY CAPSTAN		1	
	3-42	86-522-319	FL GEAR CAPSTAN Ass'y		1	
	3-43	86-522-320	MAIN BELT		1	
	3-44	★86-522-321	DAMPPER SP		2	
	3-45	★86-522-322	FL OBJECT PLATE		2	

Part No. Changed to	Ref.No.	Part.No.	Description	Common Model	Q'ty	
	3-46	★86-521-264	M COLLAR SCREW		3	
	3-47	★81-533-388	MOTOR RUBBER	CA-W50	3	
	3-48	—	HOLDER MOTOR Ass'y		1	
	3-49	86-521-265	MOTOR PULLEY		1	
	3-50	★86-522-347	C LEVER SP		1	

EXPLODED VIEW-4



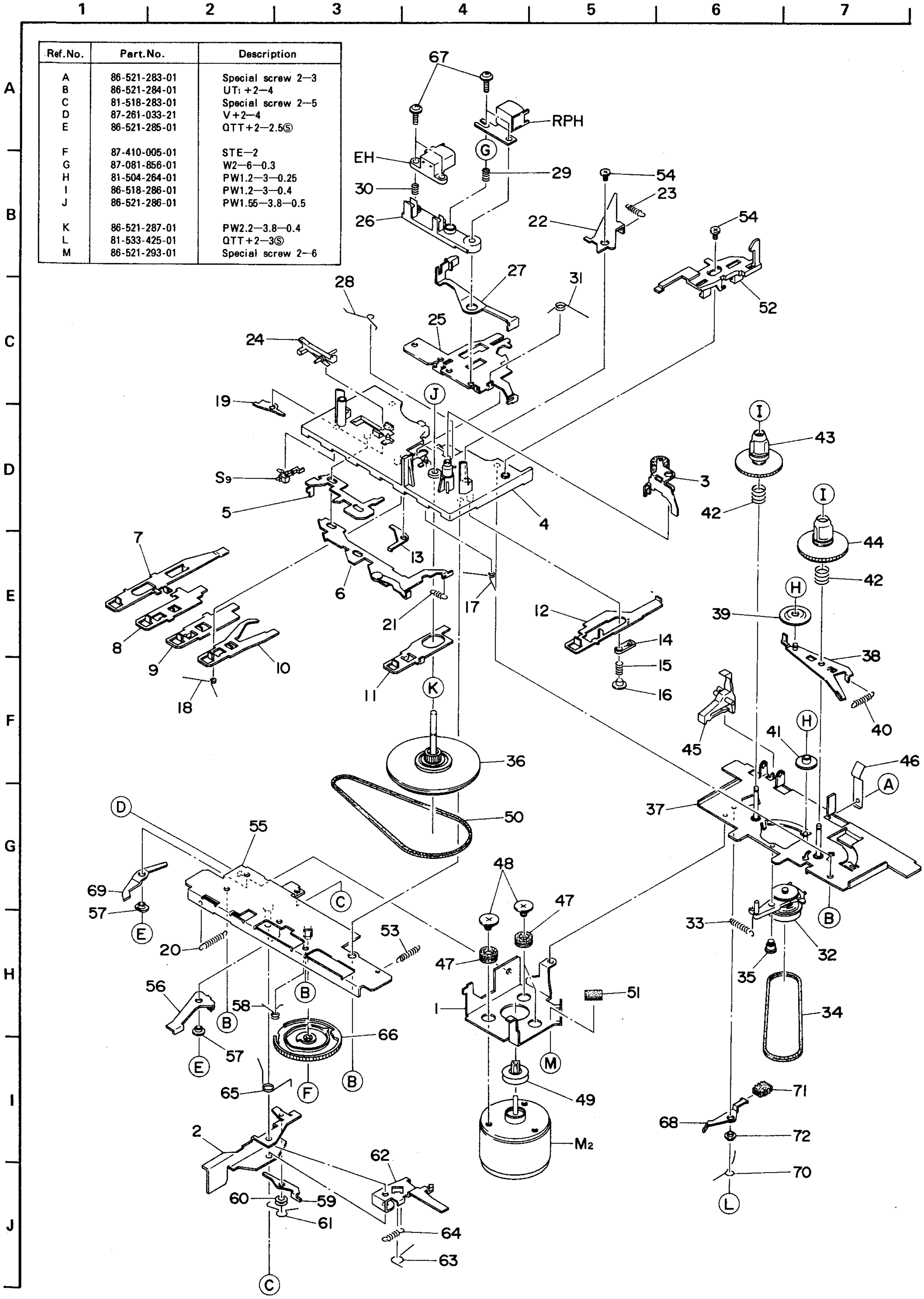
Ref.No.	Part.No.	Description
A	86-522-330-01	Special screw 2—10
B	86-522-331-01	VTT+2—2.5Ⓢ
C	86-522-332-01	QTT+2—8.5Ⓢ
D	81-504-264-01	PW1.2—3—0.25
E	86-522-337-01	VS+2—7
F	86-521-293-01	Special screw 2—6
G	86-522-341-01	STE—1.5 SB
H	86-522-342-01	VTT+2—3.5Ⓢ

Part No. Changed to	Ref.No.	Part.No.	Description	Common Model	Q'ty	
	4-	★86-526-201	PLAY MECHANISM Ass'y B		1	
	4-1	★86-522-238	HEAD PANEL		1	
	4-2	—	C.H.P. LEVER		1	
	4-3	★86-522-241	HEAD PANEL SP		1	
	4-4	★86-522-242	H.BASE		1	
	4-5	—	HEAD PLATE		1	
	4-6	★86-522-244	HEAD SP PLATE A		1	
	4-7	★86-522-245	DAMPPER SP		1	
	4-8	★86-522-247	T.ROLLER PLATE R		1	
	4-9	★86-522-248	T.ROLLER PLATE F		1	
	4-10	86-522-249	T.ROLLER Ass'y		2	
	4-11	86-522-250	PINCH ROLLER ARM R Ass'y		1	
	4-12	★86-522-151	C.H.P. LEVER COLLAR		2	
	4-13	★86-522-252	P.ROLLER SP R		1	
	4-14	★86-522-253	F.L. METAL R		1	
	4-15	86-522-254	PINCH ROLLER ARM F Ass'y		1	
	4-16	★86-522-255	P.ROLLER SP F		1	
	4-17	★86-522-256	F.L. METAL F		1	
	4-18	★86-522-257	T.ROLER SP F		1	
	4-19	★86-522-258	T.ROLER SP R		1	
	4-20	★86-522-259	CONTROL LEVER		1	
	4-21	86-522-260	REEL R Ass'y		1	
	4-22	★86-522-261	CENSOR		1	
	4-23	★86-522-262	CENSOR SP		1	
	4-24	86-522-263	REEL F Ass'y		1	
	4-25	★86-522-264	BACK TENSION SP		1	
	4-26	★86-522-265	MOLD CHASSIS		1	
	4-27	★86-521-233	BUTTON LEVER SP D		1	
	4-28	★86-521-232	BUTTON LEVER SP C		1	
	4-29	86-521-257	FF GEAR		1	
	4-30	★86-522-267	P.ARM SP R		1	
	4-31	★86-522-268	P.ARM SP F		1	
	4-32	★86-522-272	CHASSIS		1	
	4-33	—	PICK MUSIC ACTUATING PLATE		1	
	4-34	★86-522-276	PUSH-BUTTON ACTUATING PLATE		1	
	4-35	★86-522-277	PUSH-BUTTON ACTUATING PLATE SP		1	
	4-36	—	SW ACTUATING PLATE		1	
	4-37	—	PWD LEVER		1	
	4-38	—	PLAY BUTTON LEVER		1	
	4-39	—	RWD BUTTON LEVER		1	
	4-40	—	FF BUTTON LEVER		1	
	4-41	—	STOP BUTTON LEVER		1	
	4-42	★86-522-284	PAUSE BUTTON LEVER		1	

Part No. Changed to	Ref.No.	Part No.	Description	Common Model	Q'ty	
	4-43	★86-521-229	PAUSE LEVER		1	
	4-44	★86-521-230	PAUSE LEVER SP		1	
	4-45	★86-521-231	P STOPPER		1	
	4-46	★86-522-301	P TRIGGER COLLAR		1	
	4-47	★86-522-327	BRAKE ARM Ass'y		1	
	4-48	★86-522-328	BRAKE ARM SP		1	
	4-49	★86-522-346	SHIELD LINE		1	

EXPLODED VIEW-5

Ref.No.	Part.No.	Description
A	86-521-283-01	Special screw 2—3
B	86-521-284-01	UT₁ +2—4
C	81-518-283-01	Special screw 2—5
D	87-261-033-21	V+2—4
E	86-521-285-01	QTT+2—2.5Ⓢ
F	87-410-005-01	STE—2
G	87-081-856-01	W2—6—0.3
H	81-504-264-01	PW1.2—3—0.25
I	86-518-286-01	PW1.2—3—0.4
J	86-521-286-01	PW1.55—3.8—0.5
K	86-521-287-01	PW2.2—3.8—0.4
L	81-533-425-01	QTT+2—3Ⓢ
M	86-521-293-01	Special screw 2—6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Part No. Changed to	Ref.No.	Part.No.	Description	Common Model	Q'ty
	5-	★86-521-201	REC MECHANISM Ass'y		1
	5-1	—	M BRACKET		1
	5-2	—	REC ACTUATING ARM A		1
	5-3	86-521-213	PINCH ROLLER Ass'y		1
	5-4	★86-521-219	MOLD CHASSIS		1
	5-5	★86-521-220	SWITCH ACTUATING PLATE		1
	5-6	★86-521-221	PUSH-BUTTON ACTUATING PLATE		1
	5-7	—	REC BUTTON LEVER		1
	5-8	—	PLAY BUTTON LEVER		1
	5-9	—	RED BUTTON LEVER		1
	5-10	—	FF BUTTON LEVER		1
	5-11		STOP BUTTON LEVER		1
	5-12	★86-521-227	PAUSE BUTTON LEVER		1
	5-13	—	RWD LEVER		1
	5-14	★86-521-229	PAUSE LEVER		1
	5-15	★86-521-230	PAUSE LEVER SP		1
	5-16	★86-521-231	PAUSE STOPPER		1
	5-17	★86-521-232	BUTTON LEVER SP C		1
	5-18	★86-521-233	BUTTON LEVER SP D		1
	5-19	—	PR STOPPER		1
	5-20	★86-521-235	BUTTON LEVER SP A		1
	5-21	★86-521-236	ACTUATING PLATE SP		1
	5-22	—	AUTO LEVER		1
	5-23	★86-521-238	AUTO LEVER SP		1
	5-24	★86-521-240	P DETECTION PEACE		1
	5-25	★86-521-241	HEAD PANEL		1
	5-26	★86-521-242	HEAD BASE		1
	5-27	★86-521-243	DETECTION PLATE Ass'y		1
	5-28	★86-521-244	HEAD PANEL SP		1
	5-29	★86-521-245	AZIMUTH SP		1
	5-30	★86-521-246	EH SP		1
	5-31	★86-521-247	PINCH ROLLER SP		1
	5-32	86-521-248	RF PULLEY ARM Ass'y		1
	5-33	★86-521-249	RF PULLEY ARM SP		1
	5-34	86-521-250	RF BELT		1
	5-35	★86-521-251	RF ARM COLLAR SCREW		1
	5-36	86-521-252	FLYWHEEL Ass'y		1
	5-37	★86-521-253	REEL BASE HOLDER		1
	5-38	★86-521-254	T GEAR PLATE		1
	5-39	86-521-255	T ROLLER GEAR		1
	5-40	★86-521-256	T.G. PLATE SP		1
	5-41	86-521-257	FF GEAR		1
	5-42	★86-521-258	BACK TENTION SP		2
	5-43	86-521-259	SUPPLY REEL Ass'y		1
	5-44	86-521-260	TAKE-UP REEL Ass'y		1
	5-45	★86-504-202	REC SAFETY LEVER		1

Part No. Changed to	Ref.No.	Part.No.	Description	Common Model	Q'ty
	5-46	★86-521-262	PACK BEARING SP PLATE		1
	5-47	★86-533-388	MOTOR RUBBER	CA-W50	3
	5-48	★86-521-264	MOTOR COLLAR SCREW		3
	5-49	86-521-265	MOTOR PULLEY		1
	5-50	86-521-266	MAIN BELT		1
	5-51	★86-521-267	MAT		1
	5-52	★86-521-268	EJECT SLIDE LEVER		1
	5-53	★86-521-269	EJECT SLIDE LEVER SP		1
	5-54	★86-521-270	PM SCREW		2
	5-55	★86-521-271	SUB CHASSIS		1
	5-56	★86-521-272	M TRIGGER ARM		1
	5-57	★86-521-273	MTA COLLAR		2
	5-58	★86-521-274	M GEAR SP		1
	5-59	—	REC CENSER		1
	5-60	★86-521-276	REC CENSER COLLAR		1
	5-61	★86-521-277	REC CENSER SP		1
	5-62	★86-521-278	REC ACTUATING ARM		1
	5-63	★86-521-279	REC SP		1
	5-64	★86-521-280	REC ACTUATING ARM B SP		1
	5-65	★86-521-281	REC ACTUATING ARM A SP		1
	5-66	86-521-282	M GEAR		1
	5-67	★81-504-256	⊕⊖SCREW M2×7		4
	5-68	—	BRAKE ARM		1
	5-69	—	B KICK LEVER		1
	5-70	★86-521-290	BRAKE SP		1
	5-71	★86-521-291	BRAKE HOLDER		1
	5-72	★86-521-292	COLLAR		1

■ ACCESSORIES/PACKAGE LIST

Part No. Changed to	Ref.No.	Part.No.	Description	Common Model	Q'ty	
	1	★81-550-914	IUSTRUCTION BOOKLET (H, HU, U, C, G only)	※	1	
	2	★81-550-915	IUSTRUCTION BOOKLET (E, K, Z only)	※	1	

■ SPEAKER LIST

Part No. Changed to	Ref.No.	Part.No.	Description	Common Model	Q'ty	
	1	★81-550-129	SPEAKER R Ass'y 〔S〕	※	1	
		★81-550-132	SPEAKER R Ass'y 〔B〕	※	1	
	1a	★81-550-628	SPEAKER WOOFER	※	1	
	1b	★81-550-629	PLAG CORD L 3.5ϕ	※	1	
	1c	★83-097-603	TWEETER		1	
	2	★81-550-128	SPEAKER L Ass'y 〔S〕	※	1	
		★81-550-131	SPEAKER L Ass'y 〔B〕	※	1	
	2a	★81-550-628	SPEAKER WOOFER	※	1	
	2b	★81-550-629	PLAG CORD L 3.5ϕ	※	1	
	2c	★83-097-603	TWEETER		1	

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